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APRIL, 1937

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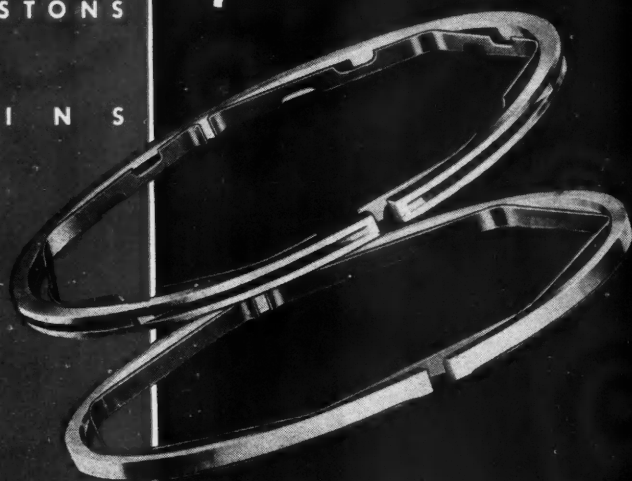
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EDITOR'S NOTE

The material in this issue is intended to be of practical use, in one form or another, to those who have anything whatsoever to do with motor trucks. The value of the contents may be gauged by a study of the editorial index below. It is the first reference book of its kind. It will be an annual feature, and to make it most useful helpful suggestions from readers are earnestly solicited. In using it during the next twelve months if it should fail you in any particular, let the editor know so that steps may be taken to make it complete.

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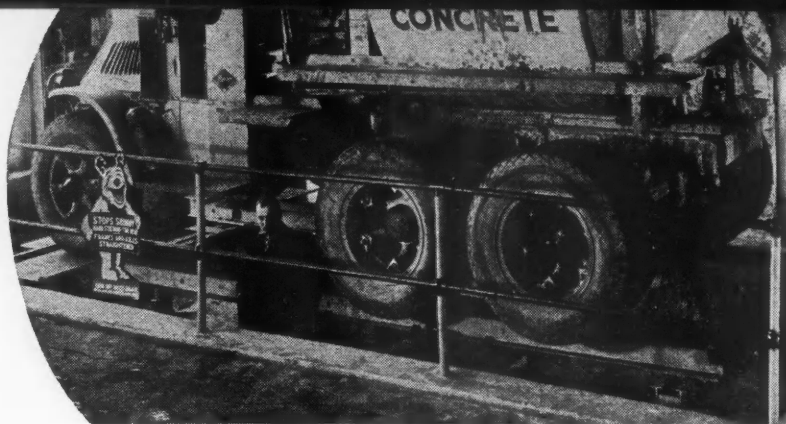
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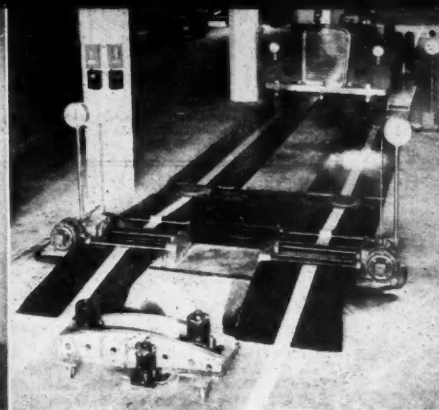


Front-



End

TRUCK MAKES AND MODELS	TOE-IN (in inches unless otherwise shown)	CAMBER (in degrees)	CASTER (in degrees)	KING PIN SLANT (in degrees)
ACF—TT160, TT175B, TT175A.....	$\frac{1}{8}$ — $\frac{1}{4}$	1	$1\frac{1}{2}$	8
ARMLEDER—11H, 11HA, 21H, 21HA, 31H, 31HA, 61E. 41H, 41HA, 61H, 61HA.....	$\frac{1}{8}$	1	2	8
11B, 21B (1935-37).....	$\frac{1}{8}$	2	2	0
31H (1935-37).....	$\frac{1}{8}$	1	$1\frac{1}{2}$	8
41H, 61H (1935-37).....	$\frac{1}{8}$	2	2	0
AUTOCAR—RG, DF.....	$\frac{1}{8}$ — $\frac{1}{4}$	1	L 2 $\frac{1}{2}$	8
D.....	$\frac{1}{8}$	1	L 2	8
N, NF.....	$\frac{1}{8}$	1	L 2 $\frac{1}{4}$	8
S.....	$\frac{1}{8}$	1	LN 2 $\frac{1}{2}$	8
T.....	$\frac{1}{8}$	1	LN 2 $\frac{1}{2}$	8
TE.....	$\frac{1}{8}$	1	LN 2 $\frac{1}{2}$	8
C.....	$\frac{1}{8}$	1	LN 2 $\frac{1}{2}$	8
UD, UNF, US.....	$\frac{1}{8}$	1	L 3 $\frac{1}{4}$	8
UDF.....	$\frac{1}{8}$	1	L 3 $\frac{1}{4}$	8
UN 109 w. b. or under.....	$\frac{1}{8}$	1	L 3 $\frac{1}{4}$	8
UN 120 w. b. or over, UT.....	$\frac{1}{8}$	1	L 3	8
RG, RH, RHT, 6RH, UT, UNF, UTT, UNFT (1935).....	$\frac{1}{8}$	1	2 $\frac{1}{4}$	8
D, DT, 6D, UDT, 6UDF (1935).....	$\frac{1}{8}$	1	1 $\frac{3}{4}$	8
DF, DFT, 6DF, DH, S (1935).....	$\frac{1}{8}$	1	1	8
N (1935).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
NT (1935).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
NF, 6N (1935).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
NFT (1935).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
T, 6T, UDFT, UNT, 6NF (1935).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$	8
TT, UDP (1935).....	$\frac{1}{8}$	1	2	8
UDF (1935).....	$\frac{1}{8}$	1	1 $\frac{3}{4}$ —2 $\frac{1}{4}$	8
UN (1935).....	$\frac{1}{8}$	1	3 $\frac{1}{4}$	8
UNFT, 6UN (1935).....	$\frac{1}{8}$	1	2 $\frac{1}{2}$	8
6UT (1935).....	$\frac{1}{8}$	1	N $\frac{1}{4}$	8
C (1935).....	$\frac{1}{8}$	1	0	8
RH, RHT, 6RH, UT, UNF, UTT, UNFT (1936).....	$\frac{1}{8}$	1	2 $\frac{1}{4}$	8
D, DT, 6D, RHD, UDT (1936).....	$\frac{1}{8}$	1	1 $\frac{3}{4}$	8
DF, DFT, 6DF, DH, S (1936).....	$\frac{1}{8}$	1	1	8
N (1936).....	$\frac{1}{8}$	1	$1\frac{1}{2}$	8
NT, DP (1936).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
NF, 6N (1936).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
NFT (1936).....	$\frac{1}{8}$	1	$1\frac{1}{4}$	8
6NF (1936).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$	8
T, 6T, UDFT, UNT, TT, UDF (1936).....	$\frac{1}{8}$	1	2	8
UD, 6UD, US, UNF (1936).....	$\frac{1}{8}$	1	2 $\frac{1}{4}$	8
UDF (1936).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —2 $\frac{1}{4}$	8
UN (1936).....	$\frac{1}{8}$	1	3 $\frac{1}{4}$	8
UNFT, 6UN (1936).....	$\frac{1}{8}$	1	2 $\frac{1}{2}$	8
6UT (1936).....	$\frac{1}{8}$	1	N	8
C (1936).....	$\frac{1}{8}$	1	0	8
TF, 6TF (1936).....	$\frac{1}{8}$	1	$1\frac{1}{2}$ N	8
TFT (1936).....	$\frac{1}{8}$	1	$\frac{1}{2}$ —IN	8
6X2RL (1937).....	$\frac{1}{8}$	1	2 $\frac{1}{4}$	8
RM, RL, RLD (1937).....	$\frac{1}{8}$	1	2 $\frac{1}{4}$ —2 $\frac{1}{2}$	8
D, 2TR, 3TR, 4TR, 6X2DF (1937).....	$\frac{1}{8}$	1	2—2 $\frac{1}{4}$	8
RMT, 1TR, 1UTR, 2UTR, 3UTR (1937).....	$\frac{1}{8}$	1	2	8
DF, DP (1937).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —2	8
UD (1937).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —2	8
5TR (1937).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —2	8
4UTR, 6X2UD (1937).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —1 $\frac{1}{4}$	8
N (1937).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —1 $\frac{1}{4}$	8
NF, DH, 6UTR (1937).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ —1 $\frac{1}{4}$	8
T (1937).....	$\frac{1}{8}$	1	$1\frac{1}{2}$ —1	8
6X2T (1937).....	$\frac{1}{8}$	1	$\frac{1}{2}$	8
6X2NF (1937).....	$\frac{1}{8}$	1	$\frac{1}{2}$	8
CP (1937).....	$\frac{1}{8}$	1	$\frac{1}{2}$	8
S, 6X2UT (1937).....	$\frac{1}{8}$	1	0— $\frac{1}{4}$	8
6X2UNF (1937).....	$\frac{1}{8}$	1	N $\frac{1}{4}$ — $\frac{1}{4}$	8
UNF, UDP, US (1937).....	$\frac{1}{8}$	1	0	8
UN, UT (1937).....	$\frac{1}{8}$	1	N $\frac{1}{4}$ —0	8
UDF, 6X2UN (1937).....	$\frac{1}{8}$	1	N $\frac{1}{4}$	8
TRUCK MAKES AND MODELS	TOE-IN (in inches unless otherwise shown)	CAMBER (in degrees)	CASTER (in degrees)	KING PIN SLANT (in degrees)
AVAILABLE—T10, T13, T20, T23, T27, T30, T37, T39, T40V, T34, T44V, T45, T50 (1931).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	2	0
T12, T20, T23, T25, T30, T35, T39, T43, T45, T50 (1932).....	$\frac{1}{8}$	1	2	8
W140, W200, W230, W300, W400, T43, T45, T50 (1933) All Models (1934-35-36).....	$\frac{1}{8}$	1	2	8
P-105, P-106 (1937).....	$\frac{1}{8}$	1	2	8
BIEDERMAN—10, 20, 25, 30, 35, 40, 50, 55, 60, 70, 80 (1932-33).....	$\frac{1}{2}$ °	2	4	8
10, 20, 30, 40, 45, 50, 60, 70, 75, 80, 100 (1935-37).....	$\frac{1}{8}$	2	3	7 $\frac{1}{2}$
BROCKWAY—80, 90 (1932-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	9
100, 150 (1933).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	7
120, 140 (1930-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	0
141, 170, 195, 220 (1930-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	7
160, 250 (1932-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	0
78, 87, V1200 (1935-36).....	$\frac{1}{8}$ — $\frac{1}{4}$	1	1—2	8
90X, 96, 110, 125X, 130, 145, 150X4, 150X5 (1935).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	7
78, 88, 90X, 92, 94, 96, 110, 125X, 130, 145, 150X4, 150X5 (1936-37).....	$\frac{1}{8}$ — $\frac{1}{4}$	1	1—2	8
160X, 165X, 170X, 175X, 195X, 180SBTX, 220X, 240X, 260X (1935-36-37).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1—2	0
CHEVROLET—Commercial (1935-37).....	$\frac{1}{8}$ — $\frac{1}{4}$	1	1 $\frac{3}{4}$	7 $\frac{1}{2}$
Utility (1935-37).....	$\frac{1}{8}$ — $\frac{1}{4}$	1	2 $\frac{1}{4}$	7 $\frac{1}{2}$
COLEMAN—All.....	0— $\frac{1}{8}$	0	0	0
CONDOR—A, B, C, D, E, ACW, BCW, CCW, FCW (1938-37).....	$\frac{1}{8}$	1	1 $\frac{3}{4}$	9
G, H, J, K, GCW, CDW, CEW (1936-37).....	$\frac{1}{8}$	1	2	8
CORBITT—All 2-wheel drive (1936-37).....	$\frac{1}{8}$ — $\frac{1}{4}$	1	1—1 $\frac{1}{2}$	8
All 4 and 6-wheel drive (1936-37).....	$\frac{1}{8}$ — $\frac{1}{4}$	+	5—7	0
DAY ELDER—75, 85, 110, 130, 150, 160 (1934-35).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$	8
200, 240, 285, 345, 402, 30B (1934-35-36).....	$\frac{1}{8}$	1	2	8
76, 86, 111, 131, 151, 161, 25B (1936-37).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$	8
201, 241, 286, 346, 403, 30B (1936-37).....	$\frac{1}{8}$	1	2	8
DIAMOND T—210, 211, 226.....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ R	9
241, 261.....	$\frac{1}{8}$	2	2 $\frac{1}{2}$ R	9
311, 326B, 325DR, 351, 376.....	$\frac{1}{8}$	2	2 $\frac{1}{2}$ R	7 $\frac{1}{2}$
410A.....	$\frac{1}{8}$	2	3R	7 $\frac{1}{2}$
425, 510, 525, 603A, 801A.....	$\frac{1}{8}$	2	3R	0
740, 750.....	$\frac{1}{8}$	2	3R	0
1515, 1201, 1203, 1602A, 1803, 2501.....	$\frac{1}{8}$	2	4 $\frac{1}{2}$ R	0
211A, 220, 227 (1935).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$ R	9
243, 311C, 312, 351C, 352 (1935).....	$\frac{1}{8}$	2	2 $\frac{1}{2}$ R	7 $\frac{1}{2}$
412B, 412DR, 512B, 512DR (1935).....	$\frac{1}{8}$	2	2 $\frac{1}{2}$ R	7 $\frac{1}{2}$
212A, 212B, 221, 228 (1936-37).....	$\frac{1}{8}$	1	1 $\frac{1}{2}$	9
244, 313, 320, 353, 360 (1936-37).....	$\frac{1}{8}$	2	1 $\frac{1}{2}$	7 $\frac{1}{2}$
412B, 412DR, 512B, 512DR (1936-37).....	$\frac{1}{8}$	2	2 $\frac{1}{2}$	7 $\frac{1}{2}$
80 (1936-37).....	$\frac{1}{8}$	1	3 $\frac{1}{2}$	9
DODGE—UF10 (1930-32).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$ —2	9
UF30, UF31 (1930-32).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$ —2	7
UG30, UG31 (1931-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$	7
UG43, UG44, G43, G44 (1932-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$ —2	7
F10, F30, F31 (1930-32).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$ —2	7
G30 (1932-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$ —2	7
G31 (1932-33).....	$\frac{1}{8}$ — $\frac{1}{4}$	2	1 $\frac{1}{2}$	7



Alignment equipment shown is that of (left to right) Bear, Weaver and Bendix-Feragen

ALIGNMENT SPECIFICATIONS

TRUCK MAKES AND MODELS	TOE-IN (in inches unless otherwise shown)	CAMBER (in degrees)	CASTER (in degrees)	KING PIN SLANT (in degrees)
DODGE—Continued				
F35, F36 (1930-32)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
G31, G31, H30, H31 (1933)	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	7
HC, MCL (1933)	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	9
H43, H44, H44X (1933)	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	7
F40, F41, F60, F61, F62 (1930)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
F42 (1930)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
FS75 (1933)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
G80 (1931)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
KC, KCL (1935)	$\frac{3}{4}$	1	2	9
KH31A, KH32A, KH33A, K32A, K33A, K34A (1935)	$\frac{3}{4}$	2	$1\frac{1}{2}$	7
K45A, K46A, K47A, K48A (1935)	$\frac{3}{4}$	2	$1\frac{1}{2}$	7
K52 Spec. (1935)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
K60A, K61A, K62A (1935)	$\frac{3}{4}$	1	2	8
LC (1936)	$\frac{3}{4}$	1	2	$8\frac{1}{2}$
LE15, LE20, LE30, LF28, LF29, LHD30, LF35, LS35, LT35 LD35 (1936)	$\frac{3}{4}$	2	$1\frac{1}{2}$	7
L 40 LH45 (1936)	$\frac{3}{4}$	2	$1\frac{1}{2}$	7
K50V, K60V (1936)	$\frac{3}{4}$	2	$1\frac{1}{2}$	7
G80 (1936)	$\frac{3}{4}$	2	$3\frac{1}{2}$	9
MC FE1-16, PT50, MD, FE2 (1937)	$\frac{3}{4}$	$1-1\frac{1}{2}$	2	4
ME FE3, MF, FR4 (1937)	$\frac{3}{4}$	2	$1\frac{1}{2}$	7
MG MH FE6 (1937)	$\frac{3}{4}$	2	1	8
ML MK (1937)	$\frac{3}{4}$	1	2	8
DUPLEX—SAC, SM, SC (1929-37)				
K (1933-35-37)	$\frac{3}{4}$	2	2	0
ESCO—233, 234 (1933-34-35)				
135, 137 (1935-37)	$\frac{3}{4}$	2	$1\frac{1}{2}$	$7\frac{1}{2}$
235, 235-0	$\frac{3}{4}$	$1\frac{1}{2}$	1	9
335, 335-0	$\frac{3}{4}$	$1\frac{1}{2}$	1	$7\frac{1}{2}$
136 (1936)	$\frac{3}{4}$	$1\frac{1}{2}$	1	$7\frac{1}{2}$
236, 237, 236H, 236-0, 237-0 (1936-37)	$\frac{3}{4}$	$1\frac{1}{2}$	1	$7\frac{1}{2}$
336, 337, 336-0, 337-0 (1936-37)	$\frac{3}{4}$	1	1	$7\frac{1}{2}$
FAGEOL—1026, 1046 (1931-33)				
101, 135, 250, 300, 370, 626, 646, 826	$\frac{3}{4}$	1	2	8
All Models (1935-37)	$\frac{3}{4}$	1	2	8
FEDERAL—4FW, E6, D, D2, D3, D4, E2, E3, E4, F7 (1930-33)				
A6, A6T, A6TW, A6SW, A600, A600T, A600S (1930-33)	$\frac{3}{4}$	1	2	$7\frac{1}{2}$
T10B, T10W (1930-33)	$\frac{3}{4}$	1	$3\frac{1}{2}$	$7\frac{1}{2}$
U6, U6SW, 4C6, 4C6A (1930-33)	$\frac{3}{4}$	1	3	$9\frac{1}{2}$
4C6S, 4C6ABS (1930-31)	$\frac{3}{4}$	1	$2\frac{1}{2}$	8
C7, C7W, C8, C8W (1934-35-36)	$\frac{3}{4}$	1	$2\frac{1}{2}$	8
X8, X8R (1930-33-36)	$\frac{3}{4}$	1	$2\frac{1}{2}$	0
E4B (1933)	$\frac{3}{4}$	2	$3\frac{1}{2}$	0
A7, A8, 30, 36, 37, 40 (1931-35)	$\frac{3}{4}$	2	3	$7\frac{1}{2}$
15A, 15B, 15X (1933-34)	$\frac{3}{4}$	1	$1\frac{1}{2}$	$7\frac{1}{2}$
20A, 20B, 20C, 21, 22 (1933-34)	$\frac{3}{4}$	1	$1\frac{1}{2}$	$7\frac{1}{2}$
25A, 25B (1933-34)	$\frac{3}{4}$	2	$1\frac{1}{2}$	$7\frac{1}{2}$
15D, 18D, 20D, 25D (1935)	$\frac{3}{4}$	1	$1\frac{1}{2}$	$7\frac{1}{2}$
10E, 15D, 18D, 20D, 25D, 28D, 29D, 40E, 50E (1936)	$\frac{3}{4}$	1	3	8
10E, 9, 11, 15D, 18D, 20D, 25D, 28D, 29D, 40E, 50E	$\frac{3}{4}$	1	3	8
C7, C8, C7W, C8W (1937)	$\frac{3}{4}$	1	3	$9\frac{1}{2}$
T10B, T10W (1937)	$\frac{3}{4}$	1	3	0
X8, X8R	$\frac{3}{4}$	1	$2\frac{1}{2}$	0
FORD—A—Commercial Car (1929-31)				
AA Truck (1929-31)	$\frac{3}{4}$	$2-\frac{1}{2}$	$8\frac{1}{2}-3\frac{1}{2}$	7
B (4 and 8 cyl.) Commercial Car (1932)	$\frac{3}{4}$	$2-\frac{1}{2}$	5-3	7
BB (4 and 8 cyl.) Truck (1932-33-34)	$\frac{3}{4}$	$2-\frac{1}{2}$	8-4	7
46 Commercial Car (1933-34)	$\frac{3}{4}$	$2-\frac{1}{2}$	5-3	7
50 Commercial Car (1935)	$\frac{3}{4}$	$2-\frac{1}{2}$	8-4	7
51 Truck (1935-36)	$\frac{3}{4}$	$2-\frac{1}{2}$	8-4	7
67 Commercial Car (1936)	$\frac{3}{4}$	$2-\frac{1}{2}$	5-3	$8\frac{1}{2}$
73, 77 Commercial Car (1937)	$\frac{3}{4}$	$2-\frac{1}{2}$	8-4	$8\frac{1}{2}$
76, 79 Truck (1937)	$\frac{3}{4}$	0	5-3	$8\frac{1}{2}$
FWD—All except M5, M7	0			
M5, M7	0			
GMC—T16, T18				
T23, T46, T51, T61, T73, T90, T74	$\frac{3}{4}$	$1\frac{1}{2}$	2	$7\frac{1}{2}$
T33, T43	$\frac{3}{4}$	1	2-4	8
T75, T83, T84SX, T85, T95, T110, T130, T78	$\frac{3}{4}$	1	$2\frac{1}{2}$	$7\frac{1}{2}$
T14 (1938)	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$
T16, T16H (1936)	$\frac{3}{4}$	$1\frac{1}{2}$	3	$7\frac{1}{2}$
T18, T18H, T23, T23H, T33, T33H, T46, T61, T61H (1936)	$\frac{3}{4}$	1	$1\frac{1}{2}$	8
T16 (1937)	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$
T16 (1937)	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$7\frac{1}{2}$
F16, T16H, F16H, T18, F18, T18H, F18H, T23, F23, T23H, F23H, T33, F33, T33H, F33H, T46, F46, T46-400, F46-400, T61, F61, T61H, F61H (1937)	$\frac{3}{4}$	1	$1-\frac{1}{2}$	8
GRAMM—AX4, AX6, BX4, BX6, BXF, CX4, CX6, CXH (1933-35)				
B, BF, C, CF (1933-35)	$\frac{3}{4}$	1	2	8
CXF, DX (1933-35)	$\frac{3}{4}$	1	$2\frac{1}{2}$	8
D, DF (1933-35)	$\frac{3}{4}$	1	$2\frac{1}{2}$	8
EX, E, ED (1933-35)	$\frac{3}{4}$	1	$3\frac{1}{2}$	8
EY190, GY (1933-35)	$\frac{3}{4}$	1	1	8
G, GF, GW, GWD (1933-35)	$\frac{3}{4}$	1	$2\frac{1}{2}$	8
HY (1933-35)	$\frac{3}{4}$	1	$1\frac{1}{2}$	8
15, 25, 30, 40, 46, DJX40 (1936-37)	$\frac{3}{4}$	1	2	8
50, 55, 70, 75, 85, DJX55, DJX70, DJX75, DJX85 (1936-37)	$\frac{3}{4}$	1	2	8
G-P—425, 435				
445, 455	$\frac{3}{4}$	1	2	8
465, 475, 485	$\frac{3}{4}$	1	$1\frac{1}{2}$	8
HAHN—All Models (1934-37)				
HUG—23, 42, 42K (1931-33)	$\frac{3}{4}$	2	1	$7\frac{1}{2}$
43, 63, 70, 87K, 87Q, 99 (1931-33)	$\frac{3}{4}$	2	1	0
70, 87K, 87Q, 99 (1934)	$\frac{3}{4}$	2	1	$7\frac{1}{2}$
15, 19, 23, 42 (1935-36)	$\frac{3}{4}$	2	1	0
43, 70, 87K, 87Q, 97L, 97LD, 99, 43-4, 87K-4, 87Q-4 (1935-37)	$\frac{3}{4}$	2	1	0
INDIANA—47DR, 43DR, 19DR, 17DR, 17ADR, 17, 17A				
95DR, 95	$\frac{3}{4}$	2	$1\frac{1}{2}$	0
17ASW151, 17SW251, 17SBT251	$\frac{3}{4}$	1	$1\frac{1}{2}$	0
95W75, 95SBT151, 14B, 16, 85	$\frac{3}{4}$	1	$1\frac{1}{2}$	7
84, 86, 87	$\frac{3}{4}$	$1\frac{1}{2}$	$1\frac{1}{2}$	7
INTERNATIONAL—C1				
M2, A1, A2, A4, C50	$\frac{3}{4}$	2	2	$7\frac{1}{2}$
B3, C10, C20, C30, B4	$\frac{3}{4}$	1	$1\frac{1}{2}$	8
C35, C40	$\frac{3}{4}$	1	$1\frac{1}{2}$	8
A5, A6, C55, C60	$\frac{3}{4}$	1	0	8
W2	$\frac{3}{4}$	1	$0\frac{1}{2}$	8
A7, A8	$\frac{3}{4}$	1	2	$7\frac{1}{2}$
C1, C5 (1936)	$\frac{3}{4}$	$1\frac{1}{2}$	$2\frac{1}{2}$	8
M3 (1936)	$\frac{3}{4}$	1	1	8
C20 (1936)	$\frac{3}{4}$	$\frac{3}{4}$	1	8
C30, C330 (1936)	$\frac{3}{4}$	$\frac{3}{4}$	$1\frac{1}{2}$	8
C35, C35S, C40 (1936)	$\frac{3}{4}$	$\frac{3}{4}$	$2\frac{1}{2}$	8
C50, C55, C60 (1936)	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{1}{2}$	8
A7, A8 (1936)	$\frac{3}{4}$	1	1	8
KENWORTH—All models (1933-34)				
101, 101B (1930-32)	$\frac{3}{4}$	1	1	8
85, 86, 70 (1930-32)	$\frac{3}{4}$	1	1	$7\frac{1}{2}$
All Others (1930-32)	$\frac{3}{4}$	$1\frac{1}{2}$	1	$7\frac{1}{2}$

FRONT-END ALIGNMENT SPECIFICATIONS (Continued)

TRUCK MAKES AND MODELS	TOE-IN (in inches unless otherwise shown)	CAMBER (in degrees)	CASTER (in degrees)	KING PIN SLANT (in degrees)	TRUCK MAKES AND MODELS	TOE-IN (in inches unless otherwise shown)	CAMBER (in degrees)	CASTER (in degrees)	KING PIN SLANT (in degrees)
KENWORTH—Continued					STEWART—41H, 46H, 47H (1935-36)				
146, D146B, D146C, 101, 101B, 127, 129, 146SBT, 146SW, 241, D241, D241C, 346, D346, D346CD, KHC-24, KHC-29, KHD-33, 88, 89, 89SBT, 89SW, 90, 166, 166, 166SBT, 166SW, 871, 881, 1281, 1661 (1936)	$\frac{1}{8}$ — $\frac{1}{4}$	1	1	8	18XS, 48-8, 58X (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1	0	9
88, 89, 89SW, 89SBT, 90, 90SBT, 90SW, 127, 127SW, 127SBT, 128, 128SW, 128SBT, 146, 146SW, 146SBT, 166, 166SW, 166SBT, 241D, 241C, 241A, 346C, D346C, 505, 506, 507, 508, 509, 510, 511, 512 (1936-37)	$\frac{1}{8}$ — $\frac{1}{4}$	1	1	8	27XS, 31X (1935)	$\frac{1}{8}$ — $\frac{1}{4}$	2	$\frac{1}{2}$ N	$\frac{1}{2}$
513, 514, F209 (1936-37)	$\frac{1}{8}$ — $\frac{1}{4}$	0	5°	0	28XS, 32X (1935)	$\frac{1}{8}$ — $\frac{1}{4}$	2	$\frac{1}{2}$ N	$\frac{1}{2}$
KLEIBER—80, 100, 120, 140, 210, 121, 141, KD4, KD6 (1934-37)	$\frac{1}{8}$ °	1	$\frac{1}{2}$ —2	8	38-8, 38-8 (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ N	7
LA FRANCE-REPUBLIC—C3, D4, E4, F4, H6, KI, M4	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ —2	8	40H, 60H (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$ N	$\frac{1}{2}$
LE MOON—150, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 12000	$\frac{1}{8}$ — $\frac{1}{4}$	1	2	8	46HB, 46HB, 47HB, 49HB (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	2	$\frac{1}{2}$ N	$\frac{1}{2}$
206, 306, 406, 510, 515, 605 (1935)	$\frac{1}{8}$ — $\frac{1}{4}$	1	2	8	48H, 50H (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	2	0	$\frac{1}{2}$
MAR-HERR—C5, C6	0— $\frac{1}{8}$	0	4	0	49H (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	2		$\frac{1}{2}$
All Others (1931-37)	0— $\frac{1}{8}$	0	$\frac{1}{2}$	0	STUDEBAKER—S20, S30 Before Serials 3401715 and 3425745 (1931)	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
MENOMINEE—A15 (1934-37)	B $\frac{1}{4}$	1	2	9	S20, S30 After Serials 3401715 and 3425745 (1931)	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
DX6, DN6, A30, N6, JX6, 6W8 (1934-37)	P $\frac{1}{8}$	2	2	0	S40, S50, S60	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
MORELAND—R12, R13, R18, E16H, E22, R25H, H30H, R125, R140, R150, R175, R190, R200, R150D, R175D, R190D, E220, E250, E250D, H300, H300D, TA420, TA420CD, TA420HD (1936)	B $\frac{1}{4}$	1	2— $\frac{1}{2}$	8	S21, S31 (1932)	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
NETCO—A, B (1935-36)	P $\frac{1}{8}$	1	$\frac{1}{2}$	$\frac{1}{2}$	S41, S61, S61, S120, S130, S140, S150 (1932)	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
C, D, E, J, K (1935-36)	P $\frac{1}{8}$	$\frac{1}{2}$	2	8	S2, S4 (1933)	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
OSHKOSH—L, H, HC, HXC, FHX (1922-30)	$\frac{1}{4}$	3	$\frac{3}{4}$	0	S6, S8 (1933)	$\frac{1}{8}$ — $\frac{1}{4}$	0—1	$\frac{1}{2}$ — $\frac{3}{4}$	8
L, H2A, H2B, H2C, Y2D, FHX, F2A, G (1931-32)	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	0	1T2, 2T2 (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ — $\frac{3}{4}$	8
L, L, L, B35, B3D, C35, C3D, FC, FB, FD, B, G3, GD (1933-37)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	8 $\frac{1}{2}$	1T6, 1W7, 1W6, 2W6, 2W7, 2W8 (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1— $\frac{1}{2}$	1— $\frac{1}{2}$	8 $\frac{1}{2}$
JCB, JD (1935-37)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	1	8 $\frac{1}{2}$	J5 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ — $\frac{3}{4}$	9
WLX, WLD, B35, B3D, C3F, C3D, R35, FC35, FB35 (1935-37)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	0	J15, J15M (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ — $\frac{3}{4}$	9
BG3, GD (1935-37)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	6	J20, J25, J30 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ — $\frac{3}{4}$	8
PIERCE-ARROW—13S385, 15T296, 17T361, 18W361, 19R479, 24X479, 28M6U	$\frac{1}{8}$	1	3	7 $\frac{1}{2}$	J20M, J20MB, J25M, J25MB, J30M (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ — $\frac{3}{4}$	8
1B (1510F-UP), 1BR, 1BY, 1D (1900F-UP), 1DR, 1DY, 2B, 2BR, 2D, 2DR, 2L	$\frac{1}{8}$	1	$\frac{1}{2}$	8	TERRAPLANE 70 (1937)	0— $\frac{1}{8}$	1— $\frac{1}{2}$	1—2	7
BA	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	WALTER—FN, FM, FKD, FCS, FBS, FCKD, FRM, FCK, FC, FB	N $\frac{1}{8}$	$\frac{1}{2}$	5	2
BN	0— $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8	WARD LA FRANCE—15R, 25R14, 25R16, 25R18, 30R19, 30R23, 35R, 55RH, 75RW, 100RW	$\frac{1}{8}$	1	1	8
DA, DC, DF	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8	WHITE—15, 15B (1921-31)	$\frac{1}{8}$	1	1	8
FA, FB, FC, FD, FE, FF, FH, FK	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	7	160, 161, 162 (1931-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
GA (1S-976S)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	4 $\frac{1}{2}$	20, 20A (1921-30)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
GA (976S-2482F), GB (1S-485F), GC (1S-1194F), GD (1F-459F), GE	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	7	210, 211, 212 (1931-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
GA (2482F-UP), GB (485F-UP), GC (1194F-UP), GD (459F-UP)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	40A, 45, 45A, 50B Elliott Type Axle (1921-30)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
1A4, 1B4, 1B4R, 1B4Y, 1C4, 1D4, 1D4R, 1D4Y, 1D4M, 2B4, 2B4R, 2D4, 2D4R, 2L4, 2L4C, 2LM, 1L5 (1935)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	50B Reverse Elliott Type Axle	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
2L4H, 2LMH, 2H, 2HR, 2J, 2JR, 2K, 2KR, 3H, 3HR, 3J, 3JR, 3K, 3KR, 3M, 3MR, 3L, 3LB, 3LC6 (1935)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	51, 51A Elliott Type Axle (1927-31)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
4H, 4WH, 4J, 4WJ, 4K, 4WK, 4M, 4WM (1935)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	52, 52D, 52T (1926-30)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
S4P (1935)	0— $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8	53 (1926-31)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
6AP (1936)	0— $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8	54, 54A (1927-34)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
1A4, 1C4, 1A4H, 1C4H, 1B4, 1D4, 1B4H, 1D4H, 2D4, 2B4, 2L4C, 2H5, 2J5 (1936)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	55 (1926-31)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
2D4M, 2DM4H (1936)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	56 (1927-31)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
3H5, 3J5, 3K5 (1936)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	58S, 58SS (1930-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
3HR5, 3JR5, 3KR5, 4H5, 4J5, 4K5 (1936)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	57 (1927-32)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
450, 650 (1937)	0— $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8	58 (1928-32)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
475, 675 (1937)	0— $\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	7	59, 59A, 59ASW (1928-30)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
1A4, 1A4H, 1C4, 1C4H, 1B4, 1B4H, 1D4, 1D4H, 2B4, 2D4 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	701, 702 (1934)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
2H5, 2J5 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	60, 60K, 601, 602 (1928-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
3H5, 3J5, 3K5, 3HR5, 3JR5, 3KR5 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	61, 611, 612, 613 (1927-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
4H5, 4J5, 4K5 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	618, 620, 621	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
1L5, 2L4, 2L4H (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	63, 630, 635SW, 64, 64SW (1929-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
36H (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	631, 641, 642, 643	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
3P7 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	$\frac{1}{2}$	8 $\frac{1}{2}$	65, 65A (1929-33)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
SCHACHT—10H, 10HA, 15H, 15HA, 20H, 20HA, 25H, 25HA	$\frac{1}{8}$ °	1	2	8	685 (1933)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
10B, 15B, A20H, 20HA (1935)	$\frac{1}{8}$ °	1	$\frac{1}{2}$	8	684, 686, 706M, 810 (1935-37)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
28H, 28HA (1935)	$\frac{1}{8}$ °	2	2	0	730, 731 (1935)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
35H, 35HA, 40H, 40HA, 40HB, TRD, TRDA, TRDB, (1935)	$\frac{1}{8}$ °	2	$\frac{1}{2}$	0	718 (1935-37)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
66H, 66HA (1935)	$\frac{1}{8}$ °	2	$\frac{1}{2}$	0	710, 713, 712 (1935-37)	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	8
8A, 10A, 12A, 15A, 18A, 20A, 25A, 28A, 115CU, 120CU, 125CU, 128CU (1936-37)	$\frac{1}{8}$ °	1	2	8	703, 704, 705, 704K, 706, 709, 720, 722, 805, 809 (1936-37)	$\frac{1}{8}$	1	3	8 $\frac{1}{2}$
STERLING—FB50 DeL, FB60 DeL, FB70 DeL, FB80, FD90, FC90, FBT130	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ —2	8	812, 818 (1937)	$\frac{1}{8}$	1	$\frac{3}{4}$	8 $\frac{1}{2}$
FD95, FC95, FD97, FC100, FD115, FBT162	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ —2	8	WILLYS—C101, T101, C113, C131, C157, 77 (1929-37)	$\frac{1}{8}$	2	1—2	7 $\frac{1}{2}$
FC135, HC140, HC170, HCS210	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$ —2	8	PASSENGER CARS				
					CHEVROLET—Mas. Conv. (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1N	2 $\frac{1}{4}$	7 $\frac{1}{2}$
					Mas. De Luxe (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	0	7 $\frac{1}{2}$
					Standard (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1	$\frac{1}{2}$	7 $\frac{1}{2}$
					Standard (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$ — $\frac{1}{4}$	2 $\frac{1}{4}$ — $\frac{3}{4}$	7 $\frac{1}{2}$
					Master (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$ — $\frac{1}{4}$	0	7 $\frac{1}{2}$
					DODGE (1937)	0— $\frac{1}{8}$	$\frac{1}{2}$ — $\frac{3}{4}$	2	4 $\frac{1}{2}$ —5 $\frac{1}{2}$
					(1938)	0— $\frac{1}{8}$	$\frac{1}{2}$	2	8 $\frac{1}{2}$
					(1935)	0— $\frac{1}{8}$	$\frac{1}{2}$	1—3	8 $\frac{1}{2}$
					FORD (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	1	8	8
					(1936)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	7	8 $\frac{1}{2}$
					(1935)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	7	7
					GRAHAM—680, 680A (1935-36)	$\frac{1}{8}$ — $\frac{1}{4}$	1	2 $\frac{1}{4}$	7 $\frac{1}{2}$
					85 (1937)	$\frac{1}{8}$ — $\frac{1}{4}$	1	4 $\frac{1}{2}$ —8 $\frac{1}{2}$	7 $\frac{1}{2}$
					LAFAYETTE (1936-37)	$\frac{1}{8}$ — $\frac{1}{4}$	$\frac{1}{2}$	2 $\frac{1}{4}$	7
					(1935)	$\frac{1}{8}$ — $\frac{1}{4}$	0— $\frac{1}{2}$	2 $\frac{1}{4}$	7
					PLYMOUTH—P3, P4 (1937)	0— $\frac{1}{8}$	$\frac{1}{2}$ — $\frac{3}{4}$	1—3	4 $\frac{1}{2}$ —5 $\frac{1}{2}$
					P1, P2 (1936)	0— $\frac{1}{8}$	$\frac{1}{2}$ — $\frac{3}{4}$	1—3	8 $\frac{1}{2}$
					P1, P2 (1935)	0— $\frac{1}{8}$	$\frac{1}{2}$ — $\frac{3}{4}$	1—3	9 $\frac{1}{2}$
					TERRAPLANE (1937)	0— $\frac{1}{8}$	1— $\frac{1}{2}$	0— $\frac{1}{2}$	7
					(1936)	0— $\$			

COMPRESSION. Ratio

CHANGE-OVER FOR MODERN GASOLINES

FOR AN EXPLANATION OF THE VALUE OF THIS TABLE SEE PAGE 86 . .

MAKE, ENGINE MODEL AND YEARS	No. of Cylinders Bore and Stroke	Valve Arr.	Standard Range of Compression Ratios	Ratio for 85-70 Octane Fuel	Ratio for Ethyl (70-78 Octane)	Factory Parts Available ††
AUTOCAR						
M (1927-33)	4-4 1/2 x 5 1/2	L	3.80-5.10	5.10	5.40	No *
R, RE (1932-35)	6-3 1/2 x 4 1/2	L	4.40-5.10	5.10	6.25	H *
S, SD (1932-35)	6-4 x 4 1/2	L	4.40-5.10	5.10	6.25	H *
SCH (1932-35)	6-4 1/2 x 4 1/2	L	4.40-5.10	5.10	6.25	H *
SCM (1932-35)	6-4 1/2 x 4 1/2	L	4.40-5.10	5.10	6.25	H *
KAS (1933-35)	6-5 1/2 x 6	L	4.75	4.75	5.35	H *
ST-LT (1932-34)	6-5 1/2 x 6	L	4.68	4.68	5.30	H *
314 (1936-37)	6-3 1/2 x 3 1/2	L	5.50±	5.50	6.25	H *
358 (1936-37)	6-4 x 4 1/2	L	5.50±	5.50	6.25	H *
404 (1936-37)	6-4 1/2 x 4 1/2	L	5.50±	5.50	6.25	H *
453 (1936-37)	6-4 1/2 x 4 1/2	L	5.50±	5.50	6.25	H *
501 (1936-37)	6-4 1/2 x 4 1/2	L	5.50±	5.50	6.25	H *
6RB (1936-37)	6-5 1/2 x 5 1/2	L	4.75	4.75	5.30	H *
BROCKWAY						
26B (1932-34)	6-3 1/2 x 4	L	4.77-5.07	5.07	5.83	H *
27B (1932-34)	6-3 1/2 x 4 1/2	L	5.00	5.00	5.66	H *
30B (1932-34)	6-4 x 4 1/2	L	4.14-4.58	4.77	Non	H *
33B (1932-34)	6-4 1/2 x 4 1/2	L	4.26-4.77	4.77	Non	No *
34B (1932-34)	6-4 1/2 x 4 1/2	L	4.20-4.62	5.21	H *	
35B (1932-34)	6-4 1/2 x 4 1/2	L	4.22-4.38	4.85	5.25	H *
16H (1932-34)	6-3 1/2 x 5 1/2	L	4.16	4.75	5.72	H *
E600 (1932-34)	6-3 1/2 x 4 1/2	L	4.07-4.67	4.67	Non	H *
24B (1935-37)	6-3 1/2 x 4 1/2	L	5.70	5.70	6.25	H *
25B (1935-37)	6-3 1/2 x 4 1/2	L	5.70	5.70	6.25	H *
26B (1935-37)	6-3 1/2 x 4 1/2	L	4.77-4.95	5.07	5.40	H *
27B (1935-37)	6-3 1/2 x 4 1/2	L	4.90-5.66	5.70	6.00	H *
28B (1935-37)	6-3 1/2 x 4 1/2	L	5.70	5.70	6.75	H *
29B (1935-37)	6-3 1/2 x 4 1/2	L	5.40	5.40	6.00	H *
30B (1935-37)	6-4 x 4 1/2	L	4.20-4.58	4.77	Non	No *
31B (1935-37)	6-3 1/2 x 4 1/2	L	5.50	5.50	6.00	H *
32B (1935-37)	6-4 1/2 x 4 1/2	L	5.40	5.40	5.80	H *
33B (1935-37)	6-4 1/2 x 4 1/2	L	4.40-4.77	4.77	Non	No *
34B (1935-37)	6-4 1/2 x 4 1/2	L	4.62	4.62	5.20	H *
35B (1935-37)	6-4 1/2 x 4 1/2	L	4.50-4.85	4.50	5.25	H *
AlnLF (1935-37)	V12-4x5	O	5.16	5.16	5.85	No *
CHEVROLET						
Six (1929-32)	6-3 1/2 x 3 1/2	O	5.02-5.20	5.50	5.80	No *
Std. (1933)	6-3 1/2 x 3 1/2	O	5.20	5.50	5.80	No *
Master (1933)	6-3 1/2 x 4	O	5.20	5.50	6.00	No *
Std. (1934)	6-3 1/2 x 3 1/2	O	5.35	5.50	6.00	No *
Master (1934)	6-3 1/2 x 4	O	5.45	5.45	6.00	No *
Six (1935-36)	6-3 1/2 x 4	O	5.60	5.60	6.25	No *
Six (1937)	6-3 1/2 x 3 1/2	O	6.25	6.25	6.25	a
DODGE						
P to 1932	4-3 1/2 x 4 1/2	L	4.90	5.25	5.75	No *
DD (1931 only)	6-3 1/2 x 4 1/2	L	5.20	5.50	6.00	H *
DP-D1 (1934-37)	6-3 1/2 x 4 1/2	L	5.00-5.80	6.10	6.70	H *
D8 (1930-32)	6-3 1/2 x 3 1/2	L	4.60-5.10	5.60	6.25	No *
DH (1932-33)	6-3 1/2 x 4 1/2	L	5.35	5.50	6.25	No *
DZ,DH (1935-37)	6-3 1/2 x 4 1/2	L	5.60	5.60	6.00	H *
SZ, SF (1935-37)	6-3 1/2 x 4 1/2	L	5.40	5.40	6.00	H *
Z (1931-37)	6-3 1/2 x 5	L	4.70	5.00	5.80	H *
CG (1931-37)	6-3 1/2 x 5	L	4.80-5.00	5.00	5.80	H *
FORD						
AA-8B to 1932 inc.	4-3 1/2 x 4 1/2	L	4.22-4.60	4.75	5.25	No *
V8 (1932-33)	8-3 1/2 x 3 1/2	L	5.50	5.50	6.00	No *
40-48 (1933-36)	8-3 1/2 x 3 1/2	L	6.30 A1A	6.30	7.00	No *
V8S (1937)	8-3 1/2 x 3 1/2	L	6.12 C1	6.12	6.50	No *
V80 (1937)	8-2.60 x 3.20	L	6.60 A1A	6.60	7.00	No *
GMT						
200 (1932-34)	6-3 1/2 x 3 1/2	L	4.90-5.10	5.50	6.20	No *
213 (1934-37)	6-3 1/2 x 4 1/2	L	5.80-6.00	6.00	6.60	No *
353 (1932-34)	6-3 1/2 x 4 1/2	L	5.15-5.75	5.75	6.25	H *
221 (1932-37)	6-3 1/2 x 4 1/2	L	4.60-5.30	5.30	6.00	P
239 (1936-37)	6-3 1/2 x 4 1/2	L	5.10	5.10	5.47	P
257 (1932-37)	6-3 1/2 x 4 1/2	L	4.50-5.00	5.00	6.25	P
286 (1936-37)	6-3 1/2 x 4 1/2	L	4.90	4.90	6.09	P
331 (1932-37)	6-3 1/2 x 5	L	4.35-4.74	4.74	5.10	P
400 (1932-37)	6-4 x 5	L	4.60-4.75	4.75	5.33	P
450 (1932-37)	6-4 x 5	L	4.73	4.73	5.35	No
468 (1932-34)	6-4 1/2 x 5 1/2	L	4.57	4.57	5.20	No
525 (1932-37)	6-4 1/2 x 5 1/2	L	4.45	4.75	5.40	P
616 (1932-37)	6-4 1/2 x 5 1/2	L	4.45-4.75	4.75	5.27	P
707 (1932-37)	6-5 x 6	L	4.45-4.75	4.75	5.95	P
INTERNATIONAL HARVESTER						
XAH (1932-37)	4-3 1/2 x 4 1/2	L	4.66	5.00	5.75	H *
FC (1936-37)	4-3 1/2 x 4	L	6.10	6.10	6.75	No *
SAH-L (1932-35)	6-3 1/2 x 4 1/2	L	4.70	5.25	6.00	No *
HS151 (1932-35)	4-4 1/2 x 5 1/2	O	4.03	4.65	5.30	P
HS152 (1932-35)	4-4 1/2 x 5 1/2	O	3.86	4.50	5.20	P
D-HD-HD3 (1933-37)	6-3 1/2 x 4 1/2	L	5.00-6.40	6.40	6.85	H *
FAB2 (1932-37)	6-3 1/2 x 4	O	5.00-5.50	5.50	6.23	P
FAB3 (1932-37)	6-3 1/2 x 4	O	5.40	5.40	6.30	P
FBB (1932-37)	6-3 1/2 x 4 1/2	O	4.66	4.66	5.25	P
FBB3 (1932-37)	6-3 1/2 x 4 1/2	O	5.70	5.70	6.25	P
FDB (1932-37)	6-4 1/2 x 5 1/2	O	4.50	4.50	5.40	P
FEB (1932-37)	6-5 x 5 1/2	O	4.40	4.40	5.30	P
MACK						
AB (1927-37)	4-4 1/2 x 5	L	4.20-5.10	5.00	5.50	H *
AL (1928-30)	6-4 1/2 x 5	L	4.20-4.40	5.00	5.50	H *
AC (1932-37)	4-5 x 6	L	3.99-5.00	4.80	5.30	H *
AP (1932-37)	6-5 x 6	L	4.40-4.80	4.80	5.30	H *
BL (1932-35)	6-3 1/2 x 5	L	5.00-5.60	5.25	6.00	H *
BG (1932-37)	6-3 1/2 x 5	L	4.60-5.40	5.40	5.65	H *
CU (1934-37)	6-3 1/2 x 5	L	5.20-5.40	5.40	5.65	H *
BC (1932-34)	6-4 x 5 1/2	L	4.65-5.20	5.43	5.65	H *
CE (1934-37)	6-4 x 5 1/2	L	5.20-5.65	5.20	6.00	H *
BX (1932-34)	6-4 1/2 x 5 1/2	L	4.68	5.00	5.65	H *
CF (1934-37)	6-4 1/2 x 5 1/2	L	5.00-5.40	5.00	5.65	H *
BK (1932-34)	6-4 1/2 x 5 1/2	L	5.00	5.00	5.50	H *
CT (1934-37)	6-4 1/2 x 5 1/2	L	4.80-5.00	5.20	5.75	H *
BQ (1932-37)	6-4 1/2 x 5 1/2	L	4.75-5.60	5.00	5.60	H *
MACK, JR.						
MR140 (1937)	4-3 x 4 1/2	L	5.40	5.75	6.25	No *
MR209 (1936-37)	6-3 x 4 1/2	L	5.40	5.80	6.25	No *
MR228 (1936-37)	6-3 x 4 1/2	L	5.40	5.40	6.00	No *
MR268 (1936-37)	6-3 x 4 1/2	L	5.20	5.20	6.00	H *
MR309 (1936-37)	6-3 x 4 1/2	L	5.20	5.20	5.80	H *
PIERCE-ARROW						
FA (1930-32)	4-3 1/2 x 5	L	3.80	4.50	5.25	No *
XA (1930-32)	4-4 x 5 1/2	L	3.90	4.50	5.25	No *
WC (1930-32)	4-4 1/2 x 6 1/2	L	3.80	4.50	5.25	No *
BL (1933-35)	8-2 1/2 x 5	L	5.00-5.25	5.50	6.00	H *
REO						
(1930-33)	4-3 1/2 x 4 1/2	F	4.90	5.20	5.80	H *
S140 (1936-37)	4-3 1/2 x 4 1/2	L	5.40	5.40	6.00	H *
(1930-33)	6-3 1/2 x 4 1/2	L	4.80-5.20	5.20	5.80	No *
S1 (1932-36)	6-3 1/2 x 5	L	4.80-5.40	5.40	6.00	H *
S3 (1932-37)	6-3 1/2 x 5	L	4.80-5.50	5.50	5.80	H *
S5 (1932-37)	6-3 1/2 x 5	L	4.90-5.40	5.40	5.80	H *
S209 (1935-37)	6-3 1/2 x 4 1/2	L	5.40-5.80	5.40	6.20	H *
S228 (1936-37)	6-3 1/2 x 4 1/2	L	5.40	5.40	6.00	H *
K428 (1936-37)	6-4 1/2 x 4 1/2	L	4.70	4.70	5.40	H *
N3 (1933-35)	8-3 1/2 x 5	L	4.90-5.30	5.30	5.80	H *
N5 (1933-35)	8-3 1/2 x 5	L	4.90-5.10	5.10	5.75	H *
STUDEBAKER						
Diet.6 (1930-32)	6-3 1/2 x 4 1/2	L	4.80	5.35	5.85	No *
Diet.56 (1933-35)	6-3 1/2 x 4 1/2	L	4.60	5.35	6.00	H *
Diet.6 (1936-37)	6-3 1/2 x 4 1/2	L	6.00	6.00	6.50	H *
Pres.3 (1930-35)	8-3 1/2 x 4 1/2	L	4.80-5.50	5.50	6.00	H *
W6BM (1936-37)	6-3 1/2 x 4 1/2	L	5.40	5.40	6.30	H *
W6BK (1936-37)	6-3 1/2 x 4 1/2	L	5.40	5.40	5.95	H *
W6-116 (1934-37)	6-4 x 4 1/2	F	5.40	5.70	6.00	H *
TERRAPLANE						
70 (1936-37)	6-3 x 5	L	6.00	6.25	6.75	H *
WHITE						
1A-1AB (1927-33)	6-4 1/2 x 5 1/2	O	4.03-4.63	4.63	5.30	P
2A-2AB (1927-35)	6-3 1/2 x 4 1/2	L	4.84-5.77	5.77	6.30	H *
3A-AD (1928-33)	6-4 x 5 1/2	L	4.32-4.90	4.90	5.60	P
4A-AB (1927-33)	6-3 1/2 x 4 1/2	L	4.75-5.46	5.46	6.02	H *
5A-AD (1931-36)	6-4 1/2 x 5 1/2	L	4.60-5.00	5.00	5.50	P
6A (1934-37)	12-4 1/2 x 4 1/2	L	5.30	5.30	5.85	No *
7A (1934-36)	6-4 1/2 x 5 1/2	L	4.90-5.50	4.90	5.80	P
8A (1934-35)	6-3 1/2 x 4 1/2	L	4.70-5.50	5.50	6.25	H *
9A (1933-35)	6-3 1/2 x 4 1/2	L	5.50-5.88	5.50	6.30	H *
10A-AB (1934-35)	12-3 1/2 x 3 1/2	L	5.25-5.63	5.63	6.25	H *
11A (1935-36)	6-3 1/2 x 4 1/2	L	5.50-5.88	5.50	6.20	H *
12A-AB (1936-37)	12-3 1/2 x 3 1/2	L	5.63	5.63	5.92	H *
13A (1936-37)	6-3 1/2 x 4 1/2	L	5.50-5.88	5.50	6.30	H *
250 (1937)	6-3 1/2 x 4 1/2	L	5.80	5.80	6.00	H *
270 (1937)	6-3 1/2 x 4 1/2	L	5.50-5.88	5.50	6.20	H *
303 (1937)	6-3 1/2 x 4 1/2	L	5.50-5.88	5.50	6.30	H *
318 (1937)	6-3 1/2 x 4 1/2	L	5.50	5.50	6.25	H *
396 (1937)	6-4 x 5 1/2	O	5.00	5.00	5.60	P
434 (1937)	6-4 1/2 x 5 1/2	O	4.90	4.90	5.80	P
480 (1937)	6-4 1/2 x 5 1/2	O	4.80	4.80	5.50	P
505 (1937)	12-3 1/2 x 3 1/2	L	6.20	6.20	6.75	P
580 (1937)	6-4 1/2 x 5 1/2	O	4.60-5.00	5.00	5.60	P
GR-GKA to 1925	4-4 1/2 x 5	L	4.38	4.38	5.15	P †
GR-GR to 1928	4-4 1/2 x 5	L	4.30-5.30	5.30	5.65	H *
GRB (1925-33)	4-4 1/2 x 5 1/2	L	4.30-5.25	5.25	5.85	H *
GRC-GRCB (1925-33)	4-4 x 5 1/2	L</				

Clearance

STANDARDS

CLASSIFIED BY JOBS

1 to 8	Front End
9 to 12	Clutch
13 to 16	Transmission
17 to 20	Piston Ring
21 to 24	Camshaft and Timing Gear
25 to 28	Valve
29 to 32	Oil Pump

Tolerances for use ONLY when specific factory instructions are not available. Measurements in inches; changes are noted.

Front End

Measure king pin clearance in bushing with micrometer calipers and telescoping gage.

Desirable001-.002
Serviceable005
Repair or replace007

Measure end clearance of spindle thrust bearings with feeler gage.

Desirable010
Serviceable015-.025
Repair or replace030

Measure clearance between spring eye bolt and bushing with micrometer calipers and telescoping gage.

Desirable001-.002
Serviceable010
Repair or replace015

Measure variation in distance between spring eye bolt and axle on each side with steel scale.

Desirable 1/64
Serviceable 1/3
Repair 1/16

Measure variation in camber of front wheels on each side with camber gage.

	DEGREES	INCHES
Desirable	0	1/32
Serviceable	1/4	1/16
Repair	1/2	1/8

Measure caster of front axle with caster gage, (variation from specifications).

	DEGREES
Desirable	0
Serviceable	1/4
Repair	1/2

Measure clearance between pitman arm shaft and bushing with micrometer calipers and telescoping gage.

Desirable001-.002
Serviceable004
Repair or replace006

Measure looseness of steering gear at rim of wheel with pointer and steel scale.

Desirable 1/4 in.
Serviceable 2 in.
Repair 3 in.

Clutch

Measure clearance between sliding sleeve and clutch shaft with micrometer calipers and telescoping gage.

Desirable001-.002
Serviceable005
Repair or replace007

Measure clearance between clutch hub and clutch shaft splines with dial gage.

Desirable002-.003
Serviceable006
Repair or replace010

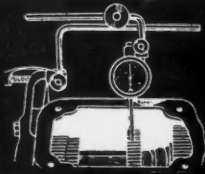
Measure difference in pressure between clutch springs with spring pressure testing gage.

Desirable 1-2 lb.
Serviceable 3 lb.
Replace 5 lb.

Measure alignment of clutch bell housing with flywheel face, using dial gage.

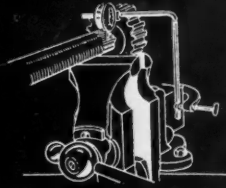
Desirable002-.003
Serviceable005
Repair or replace010

Transmission



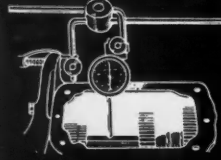
Measure clearance between transmission gear teeth with dial gage.
Desirable003-.005
Serviceable012
Repair or replace015

13



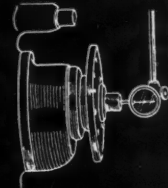
Measure clearance between gear hub and splines of shaft with dial gage.
Desirable001-.002
Serviceable004
Repair or replace005

14



Measure diametral clearance of transmission bearings with dial gage.
Desirable0005-.001
Serviceable004
Repair or replace005

15



Measure end clearance of transmission bearings with dial gage.
Desirable001-.003
Serviceable005
Repair or replace010

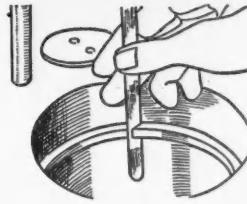
16

Piston Ring



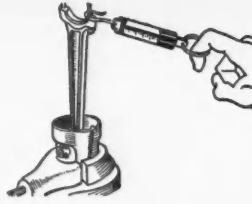
Measure clearance of piston rings in grooves with feeler gage.
Desirable001-.0015
Serviceable0025
Repair or replace004

17



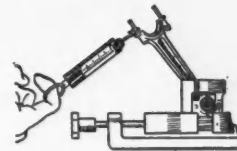
Measure clearance between ends of rings in cylinders (clearance per inch of piston diameter).
Desirable003
Serviceable004
Repair or replace006

18



Measure fit of floating pin in alloy piston with spring scale.
Desirable .5-7 lb. pull when cold
Serviceable when worn001
Repair or replace when worn .002

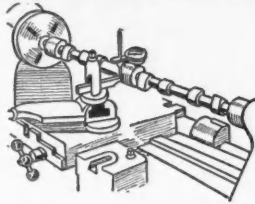
19



Measure fit of pin using bronze bushings with spring scale.
Desirable .3-5 lb. pull when cold
Serviceable when worn001
Repair or replace when worn .002

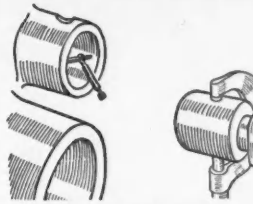
20

Camshaft & Timing Gear



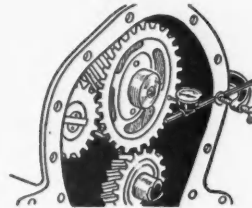
Measure straightness of camshaft with dial gage.
Desirable0005-.001
Serviceable002
Repair or replace004

21



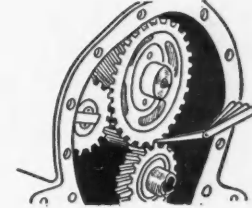
Measure camshaft bearing to journal clearance with micrometer calipers and telescoping gage.
Desirable001-.002
Serviceable003
Repair or replace005

22



Measure lateral trueness of camshaft timing gear with dial gage.
Desirable001-.002
Serviceable003
Repair or replace005

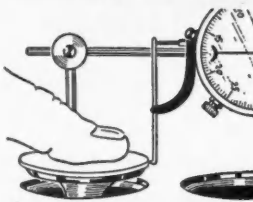
23



Measure clearance between teeth on camshaft and crankshaft timing gears with feeler gage.
Desirable001-.002
Serviceable004
Repair or replace006

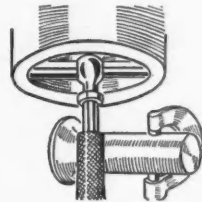
24

Valve



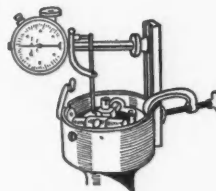
Measure clearance between valve stem and valve guide with dial gage.
Desirable002-.004
Serviceable005
Repair or replace006

25



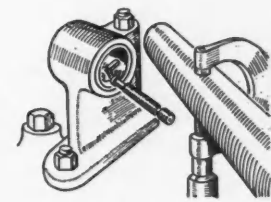
Measure clearance between valve lifter and lifter guide with micrometer calipers and telescoping gage.
Desirable001-.002
Serviceable003
Repair or replace005

26



Measure sidewise movement of ignition distributor cam with dial gage.
Desirable001-.002
Serviceable004
Repair or replace006

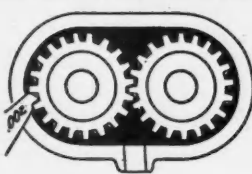
27



Measure clearance between rocker arm shaft and bushings with micrometer calipers and telescoping gage.
Desirable001-.002
Serviceable003
Repair or replace005

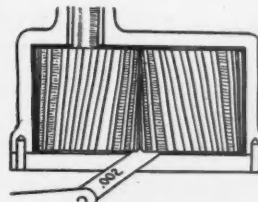
28

Oil Pump



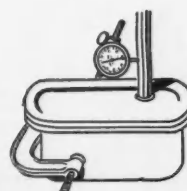
Measure clearance between oil pump gear teeth and housing with feeler gage.
Desirable001-.002
Serviceable004
Repair or replace006

29



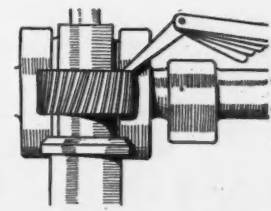
Measure clearance between oil pump housing cover and face of gears with feeler gage.
Desirable001-.002
Serviceable004
Repair or replace006

30



Measure clearance between oil pump shaft and bushings with dial gage.
Desirable001-.002
Serviceable004
Repair or replace006

31



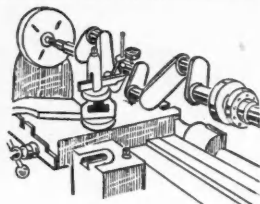
Measure clearance between oil pump drive gear and camshaft gear teeth with feeler gage.
Desirable003-.005
Serviceable007
Repair or replace010

32

Clearance

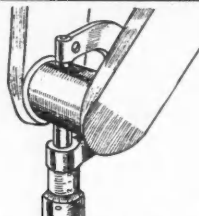
STANDARDS

Cylinder Reconditioning



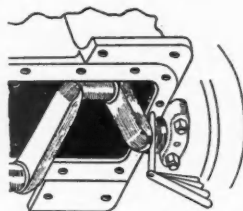
Measure straightness of crankshaft with dial gage.
Desirable0005-.001
Serviceable002
Repair or replace004

33



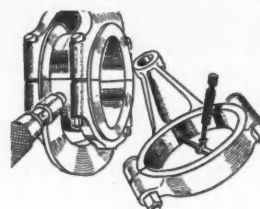
Measure crankpin for taper and roundness with micrometer calipers.
Desirable0005-.001
Serviceable002
Repair or replace003

34



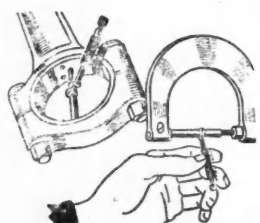
Measure end clearance of crankshaft with feeler gage.
Desirable006-.008
Serviceable012
Repair or replace018

35



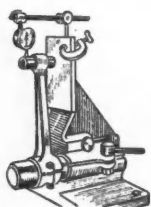
Measure clearance of forked-type outside bearing with micrometer calipers and telescoping gage.
Desirable004-.005
Serviceable006
Replace under... .004 or over .007

36



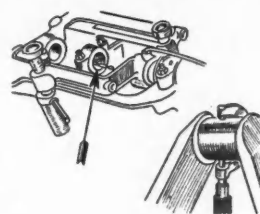
Measure roundness of bearings with micrometer calipers and telescoping gage.
Desirable0005-.001
Serviceable002
Repair or replace003

37



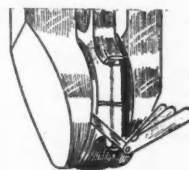
Measure connecting rod bearing for parallelism with piston pin, using aligning fixture and dial gage.
Desirable0005
Serviceable001
Repair or replace002

38



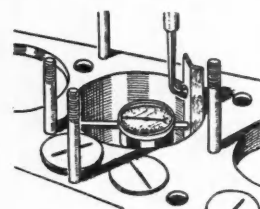
Measure bearing to shaft clearance with micrometer calipers and telescoping gage.
Desirable0015-.0025
Serviceable003-.004
Repair or replace005

39



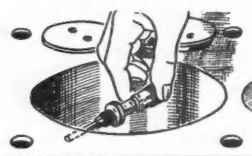
Measure end clearance of connecting rod bearing with feeler gage.
Desirable005-.007
Serviceable010
Repair or replace015

40



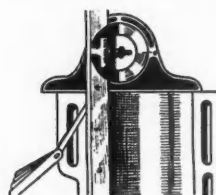
Measure roundness of cylinder bore with inside micrometer.
Desirable0005-.001
Serviceable002-.003
Repair or replace004

41



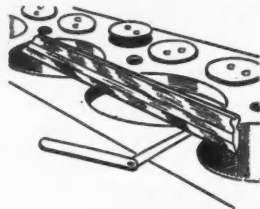
Measure cylinder bore for taper with inside micrometer.
Desirable001-.002
Serviceable003
Repair or replace005

42



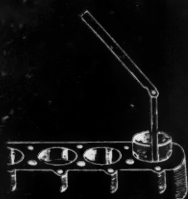
Measure squareness of bore with top of block, using Vee edge protractor and feeler gage.
Desirable001-.002
Serviceable004
Repair or replace006

43



Measure flatness of top of block with steel straightedge and feeler gage.
Desirable003-.005
Serviceable007
Repair or replace010

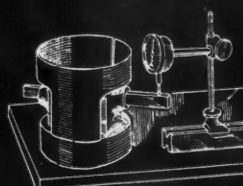
44



Measure clearance of piston in cylinder with feeler gage (clearance per inch of piston diameter).

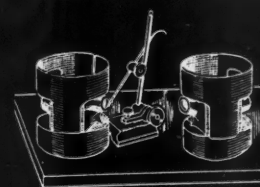
	IRON	ALUMINUM
Desirable	.001	.001-.0015
Serviceable	.0015	.0015-.002
Replace	.0025	.003

45



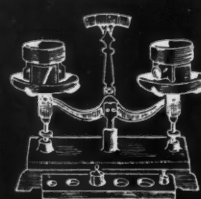
Measure piston pin boss bore for parallelism with head, using surface plate and dial gage.
Desirable001
Serviceable002
Repair or replace003

46



Measure variation in compression height with surface plate and dial gage.
Desirable003-.005
Serviceable010
Repair or replace020

47



Measure difference in weight between pistons with balance scale.
Desirable 1.16 oz.
Serviceable 1.8 oz.
Repair or replace 1.4 oz.

48

33 to 48 . . . Cylinder Reconditioning

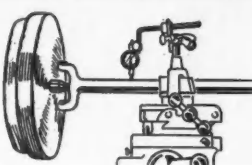
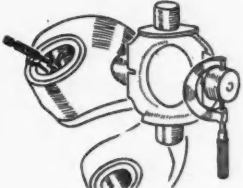
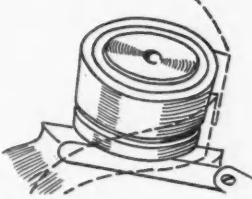
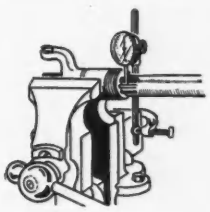
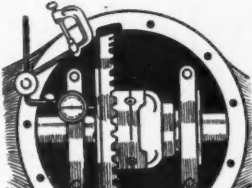
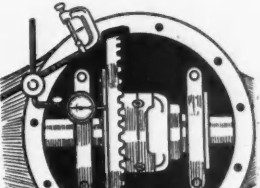
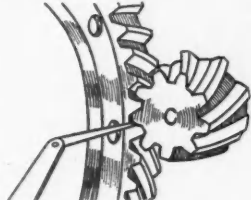
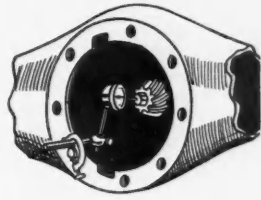
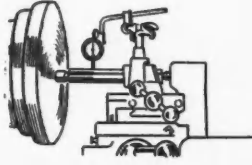
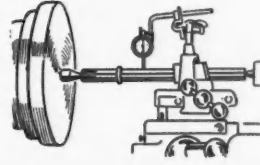
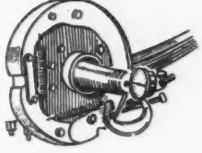
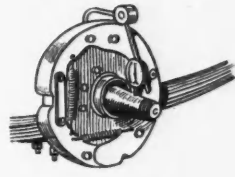
49 to 60 Rear Axle


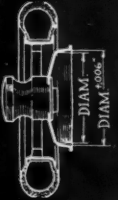
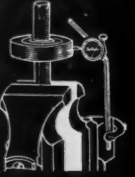
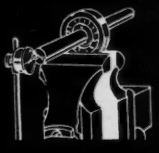
61 and 62 Brake

63 and 64 Ball Bearing

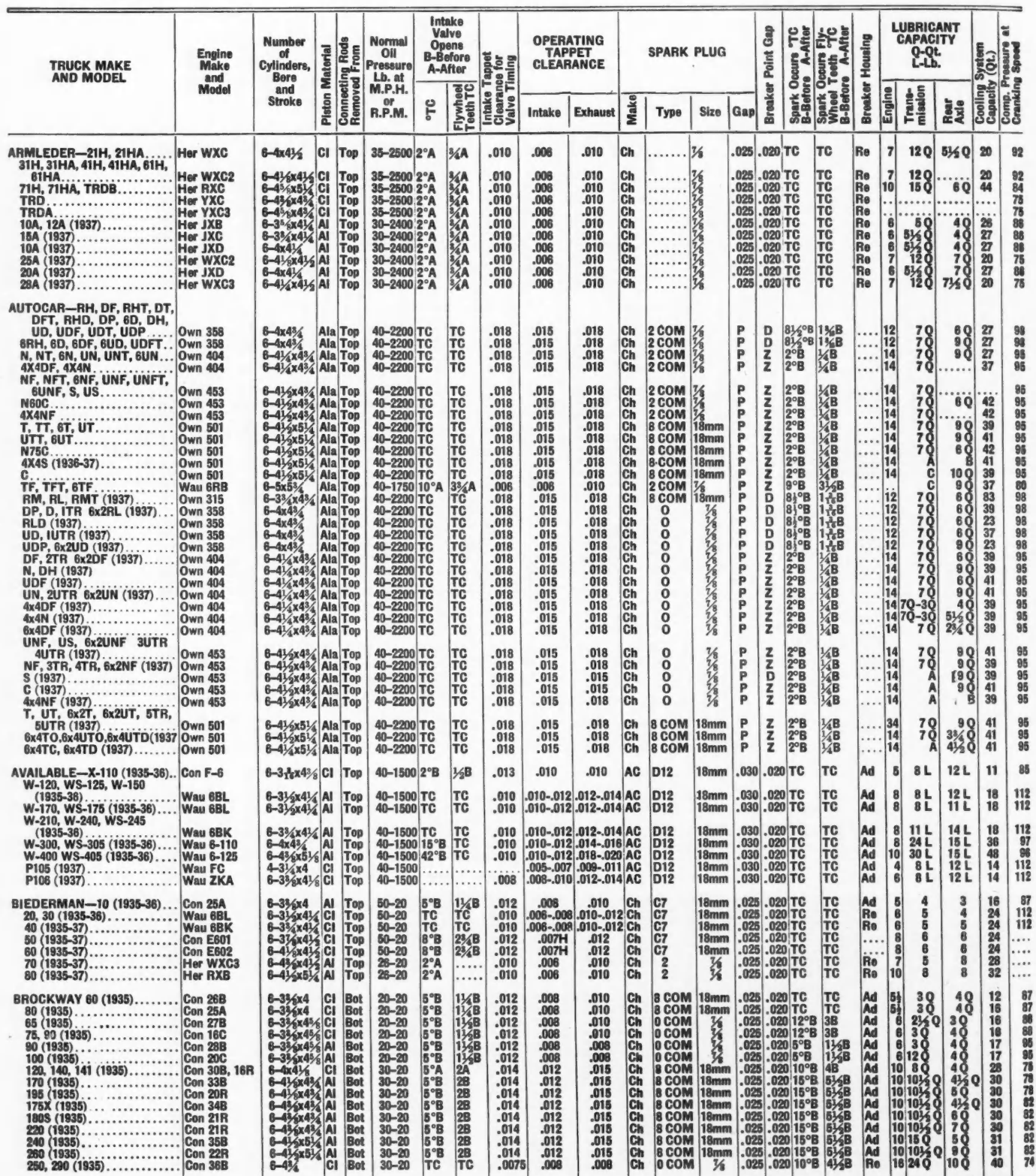
CLASSIFIED BY JOBS

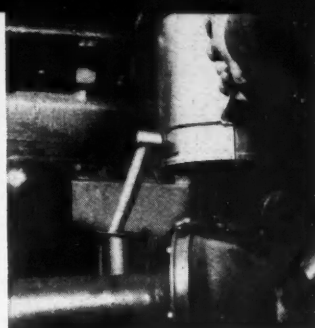
Tolerances for use ONLY when specific factory instructions are not available. Measurements in inches; changes are noted.

<i>Rear Axle</i>			
 <p>Measure straightness of propeller shaft with dial gage. Desirable002-.004 Serviceable006 Repair0010</p>	 <p>Measure clearance between universal joint pins and bushings with micrometer calipers and telescoping gage. Desirable001-.002 Serviceable005 if quiet Replace007 if noisy</p>	 <p>Measure end clearance of universal joint pins in bushings with feeler gage. Desirable001-.002 Serviceable005 Repair or replace010</p>	 <p>Measure fit of propeller shaft splines in universal joint yoke with dial gage. Desirable002-.004 Serviceable005 Repair or replace010</p>
 <p>Measure lateral trueness of differential case flange with dial gage before installing ring gear. Desirable001-.002 variation Serviceable003 variation Repair or replace004 variation</p>	 <p>Measure lateral trueness of assembled ring gear with dial gage. Desirable002-.003 variation Serviceable006 variation Replace010 variation</p>	 <p>Measure clearance between pinion and ring gear teeth with feeler gage. Desirable006-.008 Serviceable010 Repair or replace015</p>	 <p>Measure endwise clearance of pinion shaft with dial gage. Desirable001-.002 Serviceable003 Repair or replace005</p>
 <p>Measure all splined shafts for straightness with dial gage. Desirable001-.0015 Serviceable002 Repair003</p>	 <p>Measure all axle shafts for straightness with dial gage. Desirable001-.002 Serviceable004 Repair005</p>	 <p>Measure endwise clearance of axle shaft with dial gage. Desirable002-.004 Serviceable005 Repair or replace010</p>	 <p>Measure wheel bearing clearance with dial gage. Desirable001-.002 Serviceable005 Repair or replace008</p>

<i>Brakes</i>		<i>Ball Bearing</i>	
 <p>Measure brake drum for roundness and concentricity with hub, using dial gage mounted in hub. Desirable002-.004 Serviceable008 Repair or replace010</p>	 <p>Measure brake drum for taper or bell-mouth with dial gage mounted in hub. Desirable001-.002 Serviceable004 Replace006</p>	 <p>Measure all ball bearings for radial or diametral clearance with dial gage, (clearance per inch of diameter). Desirable0005-.001 Serviceable003 Replace005</p>	 <p>Measure all ball bearings for endwise clearance with dial gage, (clearance per inch of diameter). Desirable001-.002 Serviceable004 Replace006</p>

SPECIFICATIONS





AND COOLING SYSTEM AND LUBRICANT

Capacities

Capacity (Qt.) Comp. Pressure at Cranking Speed	TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After		OPERATING TAPPET CLEARANCE	SPARK PLUG			Breaker Point Gap	Spark Occurs °C B-Before A-After	Spark Occurs Fly- Wheel Teeth °C B-Before A-After	Breaker Housing	LUBRICANT CAPACITY Q-Qt. L-Lb.			Cooling System Capacity (Qt.)	Comp. Pressure at Cranking Speed				
							°C	Flywheel Teeth TC		Intake Tappet Clearance for Valve Timing	Intake	Exhaust					Make	Type	Size			Gap	Engine	Trans- mission	Rear Axle
0	92	BROCKWAY—Cont.																							
0	92	640 (1935)	Con 16H	6-4 1/2	CI	Bot	30-20	TC	TC	.0075	.008	.008	Ch	0 COM	7/8	.025	.020	10°B	4 1/2	Re	16	24 Q	24 Q	40	74
0	92	125 (1935)	Con 31B, E601	6-3 1/2 x 4 1/2	CI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	150 (1935)	Con 32B	6-4 1/2 x 4 1/2	CI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	160, 180 (1935)	Con E602	6-4 1/2 x 4 1/2	CI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	78 (1936-37)	Con 24B	6-3 1/2 x 4 1/2	CI	Bot	20-20	2°B	1 1/2	.015	.010	.010	Ch	8 COM	18mm	.025	.020	8°B	2 1/2	Ad	16	12 Q	4 Q	81	81
0	92	87 (1936)	Con 26B	6-3 1/2 x 4 1/2	AI	Bot	20-20	5°B	1 1/2	.012	.008	.010	Ch	0 COM	7/8	.025	.020	5°B	1 1/2	Ad	16	12 Q	4 Q	81	81
0	92	88, 92 (1936-37)	Con 25B	6-3 1/2 x 4 1/2	AI	Bot	20-20	5°B	1 1/2	.012	.008	.010	Ch	8 COM	18mm	.025	.020	5°B	1 1/2	Ad	16	12 Q	4 Q	81	81
0	92	90X (1936)	Con 26B	6-3 1/2 x 4 1/2	AI	Bot	20-20	5°B	1 1/2	.012	.008	.010	Ch	0 COM	7/8	.025	.020	5°B	1 1/2	Ad	16	12 Q	4 Q	81	81
0	92	94 (1936-37)	Con 25B	6-3 1/2 x 4 1/2	AI	Bot	20-20	5°B	1 1/2	.012	.008	.010	Ch	8 COM	18mm	.025	.020	5°B	1 1/2	Ad	16	12 Q	4 Q	81	81
0	92	96, 110 (1936-37)	Con 29B	6-3 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	125X (1936-37)	Con 31B	6-3 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	130 (1936-37)	Con 29B	6-3 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	145 (1936-37)	Con 31B	6-3 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	150X4 (1936-37)	Con 32B	6-4 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	150X5 (1936-37)	Con 32B	6-4 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	160X, 180XSBT (1936-37)	Con 32B	6-4 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	165X (1936-37)	Con 32B	6-4 1/2 x 4 1/2	AI	Bot	30-20	8°B	2 1/2	.015	.012	.012	Ch	8 COM	18mm	.025	.020	8°B	3B	Ad	16	12 Q	4 Q	81	81
0	92	170X (1936-37)	Con 33B	6-4 1/2 x 4 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	175X (1936-37)	Con 34B	6-4 1/2 x 4 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	180X-SBT Spec. (1936)	Con 34B	6-4 1/2 x 4 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	195X (1936-37)	Con 33B	6-4 1/2 x 4 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	220X (1936-37)	Con 34B	6-4 1/2 x 4 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	240X (1936-37)	Con 35B	6-4 1/2 x 5 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	260X (1936-37)	Con 35B	6-4 1/2 x 5 1/2	AI	Bot	30-20	5°B	2B	.014	.012	.015	Ch	8 COM	18mm	.025	.020	15°B	5 1/2	Ad	10	15 Q	5 Q	82	82
0	92	CHEVROLET—1/4 Ton (1937)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	9°B	3 1/2	.008	.008	.013	AC	K11	14mm	.040	.018	5°B	1 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1937)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	9°B	3 1/2	.008	.008	.013	AC	K11	14mm	.040	.018	5°B	1 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1938)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	9°B	3 1/2	.008	.008	.013	AC	K11	14mm	.040	.018	5°B	1 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1939)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	9°B	3 1/2	.008	.008	.013	AC	K11	14mm	.040	.018	5°B	1 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1935)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	9°B	3B	.008	.008	.013	AC	K11	14mm	.040	.018	5°B	1 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1936)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	9°B	3B	.008	.008	.013	AC	K11	14mm	.040	.018	5°B	1 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1934)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	4°B	1 1/2	.008	.008	.013	AC	K10	14mm	.040	.018	10°B	3 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	1 1/4 Ton (1934)	Own	6-3 1/2 x 3 1/2	CI	Top	.....	4°B	1 1/2	.008	.008	.013	AC	K10	14mm	.040	.018	10°B	3 1/2	Ad	5	3 1/2 Q	2 1/2 Q	14	112
0	92	CORBETT—12B (1936)	Wau 6BL	6-3 1/2 x 4 1/2	AI	Bot	40-1500	TC	TC	.010	.010-.012	.010-.012	AC	D8-D10	18mm	.030	.025	5°B	.....	8	4 Q	6 Q	26	112	
0	92	14B (1936)	Wau 6BK	6-3 1/2 x 4 1/2	AI	Bot	40-1500	TC	TC	.010	.012-.014	.012-.014	AC	D8-D10	18mm	.030	.025	5°B	.....	8	4 Q	6 Q	26	112	
0	92	Series 18 (1936)	Wau 6MK	6-4 1/2 x 4 1/2	CI	Bot	40-1500	7°A	.....	.008	.008-.010	.012-.014	AC	D8-D10	18mm	.030	.025	7°B	.....	8	12 Q	7 Q	30	89	
0	92	Series 22 (1936)	Wau 6MK	6-4 1/2 x 4 1/2	CI	Bot	40-1500	7°A	.....	.008	.008-.010	.012-.014	AC	D8-D10	18mm	.030	.025	7°B	.....	8	12 Q	7 Q	30	89	
0	92	Series 27D (1936)	Wau 6SR	6-4 1/2 x 4 1/2	AI	Bot	40-1500	6°A	.....	.008	.008-.010	.016-.018	AC	L8-L10	1/2	.030	.025	TC	.....	10	12 Q	7 1/2 Q	38	80	
0	92	Series 35, 40 (1936)	Wau 6SRK	6-4 1/2 x 4 1/2	AI	Bot	40-1500	7°A	.....	.008	.008-.010	.016-.018	AC	L8-L10	1/2	.030	.025	7°B	.....	10	15 Q	9 Q	50	80	
0	92	F12 (1936)	Wau 6BL	6-3 1/2 x 4 1/2	AI	Bot	40-1500	TC	TC	.010	.010-.012	.010-.012	AC	D8-D10	18mm	.030	.025	5°B	.....	8	4 Q	6 Q	26	112	
0	92	F15 (1936)	Wau 6BK	6-3 1/2 x 4 1/2	AI	Bot	40-1500	TC	TC	.010	.012-.014	.012-.014	AC	D8-D10	18mm	.030	.025	5°B	.....	8	4 Q	6 Q	26	112	
0	92	F18 (1936)	Wau 6MK	6-4 1/2 x 4 1/2	CI	Bot	40-1500	7°A	.....	.008	.008-.010	.012-.014	AC	D8-D10	18mm	.030	.025	7°B	.....	8	4 Q	6 Q	26	112	
0	92	F23 (1936)	Wau 6SR	6-4 1/2 x 4 1/2	AI	Bot	40-1500	6°A	.....	.008	.008-.010	.016-.018	AC	L8-L10	1/2	.030	.025	TC	.....	10	15 Q	9 Q	50	80	
0	92	F27 (1936)	Wau 6SRK	6-4 1/2 x 4 1/2	AI	Bot	40-1500	7°A	.....	.008	.008-.010	.016-.018	AC	L8-L10	1/2	.030	.025	7°B	.....	10	15 Q	9 Q	50	80	
0	92	F38 (1936)	Wau 6RB	6-3 1/2 x 4 1/2	AI	Bot	40-1500	9°A	.....	.008	.008-.010	.016-.018	AC	L8-L10	1/2	.030	.025	7°B	.....	14	12 Q	8 1/2 Q	50	81	
0	92	12B (1937)	Lyc WFC	6-3 1/2 x 4 1/2	AI	Bot	40-1500	TC	TC	.010	.010-.012	.010-.012	AC	KL-8	14mm	.030	.025	5°B	.....	8	4 Q	6 Q	26	112	
0	92	22B (1937)	Wau 6MZ	6-4 1/2 x 4 1/2	AI	Bot	40-1500	7°A	.....	.008	.008-.010	.012-.014	AC	D8-D10	18mm	.030	.025	7°B	.....	8	12 Q	7 Q	30	89	
0	92	14BT (1937)	Wau 6BK	6-3 1/2 x 4 1/2	AI	Bot	40-1500	TC	TC	.010	.012-.014	.012-.014	AC	D8-D10	18mm	.030	.025	5°B	.....	8	4 Q	6 Q	26	112	
0	92	18BT (1937)	Wau 6MZ	6-4 1/2 x 4 1/2	AI																				

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After	Intake Valve Closes T-After	OPERATING TAPPET CLEARANCE		SPARK PLUG				Breaker Point Gap	Spark Occurs T-After B-Before	Spark Occurs Flywheel Teeth T-After B-Before	Breaker Housing	LUBRICANT CAPACITY Q-Qt. L-Lb.			Cooling System Capacity (Qt.)	Comp. Pressure at Cranking Speed
								Intake	Exhaust	Make	Type	Size	Gap					Engine	Transmission	Rear Axle		
DODGE—Cont.																						
MD Series (1937)	Own 216 cu. in.	6-3 1/2 x 4 1/2	Al	Top	30-40-30	TC	TC	.008	.012	J8	14mm	.025	.020	TC	TC		5	1 1/2 Q	20	16		
ME Series (1937)	Own 218 cu. in.	6-3 1/2 x 4 1/2	Al	Top	30-40-30	TC	TC	.008	.012	J8	14mm	.025	.020	4"B	1 1/2 B		5	3 Q	3 1/2 Q	18		
MF Series (1937)	Own 228 cu. in.	6-3 1/2 x 4 1/2	Al	Top	30-40-30	TC	TC	.008	.012	J8	14mm	.025	.020	4"B	1 1/2 B		5	3 Q	4 Q	18		
MG, MH Series (1937)	Own 241 cu. in.	6-3 1/2 x 4 1/2	Al	Top	30-40-30	TC	TC	.008	.012	J8	14mm	.025	.020	6"B	2 1/2 B		5	5 Q	4 Q	19		
ML, MK Series (1937)	Own 333 cu. in.	6-3 1/2 x 5	Al	Top	30-40-30	6"A	2 1/2 A	.008	.012	J8	14mm	.025	.020	6"B	2 1/2 B		8	5 1/2 Q	7 Q	30		
DUPLEX—S (1929-34)																						
Bud DW6	6-3 1/2 x 5	CI	Bot	30-25	5"A	1 1/2 A	.010	.006	.006	Ch	7/8	.025	.015	9"B	3B	Re	10	15 Q	5 1/2 Q	27		
SAC (1929-30)	Bud BA6	6-4 1/2 x 5 1/2	CI	Bot	30-25	5"A	2A	.010	.008	.012	Ch	7/8	.025	.015	6"B	2 1/2 B	Re	14	15 Q	7 1/2 Q	35	
SAC (1931-1936)	Bud K428	6-4 1/2 x 4 1/2	CI	Bot	30-25	TC	TC	.006	.006	.006-.008	Ch	C7	.025	.015	10"B	3B	Re	9	7 1/2 Q	7 1/2 Q	31	
K (1932-1936)	Bud L525	6-4 1/2 x 5 1/2	CI	Bot	30-25	TC	TC	.006	.006	.006-.008	Ch	C7	.025	.015	9"B	3B	Re	9	9 Q	7 1/2 Q	38	
M (1929-1934)	Bud GL6	6-4 1/2 x 6	CI	Bot	30-25	5"A	2 1/2 A	.010	.008	.012	Ch	7/8	.025	.015	5"B	2 1/2 B	Re	17	24 Q	9 Q	50	
SC (1936-1937)	Bud K369	6-4 1/2 x 4 1/2	CI	Bot	30-35	TC	TC	.010	.010	.012	Ch	C7	.025	.015	10"B	3B	Re	9	7 1/2 Q	9 Q	31	
FAGEOL—106BK.																						
Wau 6BK	6-3 1/2 x 4 1/2	Al	Top	40-30	TC	TC	.012C	.012C	.014C	Ch		18mm	.020	.025	34"B		8	3 Q	6 Q	30		
135HP	Wau 6-90	6-3 1/2 x 4 1/2	Al	Top	40-30	8"A	.010C	.010C	.014C	Ch		18mm	.030	.025	40"B		8	3 Q	5 1/2 Q	30		
135BK	Wau 6BK	6-3 1/2 x 4 1/2	Al	Top	40-30	TC	TC	.012C	.012C	.014C	Ch		18mm	.030	.025	34"B		8	3 Q	5 1/2 Q	30	
250MK	Wau 6MK	6-4 1/2 x 4 1/2	Al	Top	40-30	8"A	.008C	.008C	.012C	Ch		7/8	.030	.025	28"B		8	3 Q	7 Q	30		
250RA	Wau 6MK	6-4 1/2 x 4 1/2	Al	Top	40-30	8"A	.008C	.008C	.012C	Ch		7/8	.030	.025	28"B		8	3 Q	7 1/2 Q	30		
250	Wau 6BK	6-3 1/2 x 4 1/2	Al	Top	40-30	TC	TC	.012C	.012C	.014C	Ch		18mm	.030	.025	34"B		8	3 Q	7 Q	30	
300HP	Wau 6-110	6-4 1/2 x 4 1/2	Al	Top	40-30	15"B	.010C	.010C	.014C	Ch		18mm	.030	.025	28"B		8	3 Q	7 1/2 Q	34		
300RA	Wau 6-110	6-4 1/2 x 4 1/2	Al	Top	40-30	15"B	.010C	.010C	.014C	Ch		18mm	.030	.025	28"B		8	3 Q	7 1/2 Q	34		
300RAD	Wau 6D100	6-4 1/2 x 5 1/2	Al	Top	30-30	6"B	.012C	.012C	.018C	No	No	No	No	Inj	21"B		8	3 Q	7 1/2 Q	34	550	
370HP	Wau 6-125	6-4 1/2 x 5 1/2	Al	Top	40-30	42"B	.010C	.010C	.018C	Ch	No	No	No	No	Inj	17"B		8	3 Q	7 1/2 Q	34	550
370SR	Wau 6SRK	6-4 1/2 x 5 1/2	Al	Top	40-30	7"A	.008C	.008C	.016C	Ch		7/8	.030	.025	27"A		10	3 Q	8 Q	54		
370RA	Wau 6-125	6-4 1/2 x 5 1/2	Al	Top	40-30	42"B	.010C	.010C	.018C	Ch		18mm	.030	.025	28"A		10	3 Q	8 Q	54		
370D	Wau 6D-125	6-4 1/2 x 5 1/2	Al	Top	30-30	6"B	.012C	.012C	.018C	No	No	No	No	No	Inj	17"B		10	3 Q	8 Q	54	550
370RAD	Wau 6D-125	6-4 1/2 x 5 1/2	Al	Top	30-30	6"B	.012C	.012C	.018C	No	No	No	No	No	Inj	17"B		10	3 Q	8 Q	54	550
470HP	Wau 6-125	6-4 1/2 x 5 1/2	Al	Top	40-30	42"B	.010C	.010C	.018C	Ch		18mm	.030	.025	28"A		10	3 Q	8 Q	54		
470D	Wau 6D-125	6-4 1/2 x 5 1/2	Al	Top	30-30	6"B	.012C	.012C	.018C	No	No	No	No	No	Inj	17"B		14	3 Q	8 Q	54	
685RB	Wau 6RB	6-5 1/2 x 5 1/2	Al	Top	40-30	10"A	.004	.004	.008C	Ch		7/8	.030	.025	24"A		18	3 Q	9 Q	56		
278HP2R	Wau 6-110	6-3 1/2 x 4 1/2	Al	Top	40-30	15"B	.010C	.010C	.014C	Ch		18mm	.030	.025	28"A		8	3 Q	7 1/2 Q	34		
328HP2R	Wau 6-110	6-4 1/2 x 4 1/2	Al	Top	40-30	15"B	.010C	.010C	.014C	Ch		18mm	.030	.025	28"A		8	3 Q	7 1/2 Q	34		
D326-2R	Wau 6D100	6-4 1/2 x 5 1/2	Al	Top	30-30	6"B	.012C	.012C	.018C	No	No	No	No	No	Inj	21"B		8	3 Q	7 1/2 Q	34	550
8-46HP4R-10-46AL4R	Wau 6-125	6-4 1/2 x 5 1/2	Al	Top	40-30	42"B	.010C	.010C	.018C	Ch		18mm	.030	.025	28"A		10	3 Q	8 Q	54		
8-46AL4R	Wau 6-125	6-4 1/2 x 5 1/2	Al	Top	40-30	6"B	.012C	.012C	.018C	No	No	No	No	No	Inj	17"B		14	3 Q	8 Q	54	550
10-46RB4R-10-46AL4R	Wau 6RB	6-5 1/2 x 5 1/2	Al	Top	40-30	10"A	.004	.004	.008C	Ch		7/8	.030	.025	24"A		18	3 Q	9 Q	56		
10-46AL4R	Wau 6D-140	6-5 1/2 x 5 1/2	Al	Top	30-30	6"B	.012C	.012C	.018C	No	No	No	No	No	Inj	17"B		14	3 Q	8 Q	54	550
130	Wau V	6-4 1/2 x 5 1/2	Al	Top	30-30	8"A	.005	.005	.008				.030	.025	29"A							
106	Wau 6TS	6-4 1/2 x 5 1/2	Al	Top	30-30	8"A	.008	.008	.012				.030	.025	27"A							
370	Wau 6SRL	6-4 1/2 x 5 1/2	Al	Top	30-30	7"A	.008	.008	.016				.030	.025	27"A							
370RB	Wau 6SRL	6-4 1/2 x 5 1/2	Al	Top	30-30	10"A	.004	.004	.008				.030	.025	24"A							
FEDERAL—15X, 15, 75, 75H.																						
18X, 20, 21, 22, 80, 80H.	Her JXA	6-3 1/2 x 4 1/2	Al	Top	25-1500	5"A	1 1/2 A	.006	.008	.010	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	75
25, 85, 85H	Her JXB	6-3 1/2 x 4 1/2	Al	Top	25-1500	5"A	1 1/2 A	.006	.008	.010	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
30	Her JXC	6-3 1/2 x 4 1/2	Al	Top	25-1500	5"A	1 1/2 A	.006	.008	.010	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	105
40	Wau 6MS	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	18mm	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
50	Wau 6MK	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	18mm	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
67, C8, C7W, C8W, C8H.	Wau 6MK	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	18mm	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
DM (1936)	Wau 6MZ	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	18mm	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
10 (1936)	Wau 6SRK	6-4 1/2 x 5 1/2	Al	Top	35-1500	10"A	3 1/2 A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
28 (1936)	Con W10	4-3 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
29, 67H, 89 (1936)	Her OOB	4-3 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
40DR (1936)	Her JXC	6-3 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
T10B (1936)	Her JXD	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
T10W	Wau 6MK	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
X8RDR-X8R	Con 18R	6-4 1/2 x 4 1/2	Al	Top	35-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
9	Wau 6SRK	6-4 1/2 x 5 1/2	Al	Top	35-1500	10"A	3 1/2 A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
11, 11H	Con C400	4-3 1/2 x 4 1/2	Al	Top	25-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
	Her QXB3	6-3 1/2 x 4 1/2	Al	Top	25-1500	8"A	3A	.004	.010	.012	Ac	7/8	.025	.020	TC	TC	Ad	5	2 1/2 L	9 L	13 1/2	90
FORD—AA (1929-31)																						
BB 4 cyl. (1932-33)	Own	4-3 1/2 x 4 1/2	Al	Top	No	8"B	2 1/2 B	.013	.010-.013	.01												

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After	Intake Valve Closes T-After	OPERATING TAPPET CLEARANCE		SPARK PLUG				Breaker Point Gap	Spark Occurs TC B-Before A-After	Spark Occurs Flywheel Teeth TC B-Before A-After	Breaker Housing	LUBRICANT CAPACITY Q-Qt. L-Lb.			Cooling System Capacity (Qt.)	Comp. Pressure at Cranking Speed	
								Intake	Exhaust	Make	Type	Size	Gap					Engine	Transmission	Rear Axle			
GENERAL MOTORS—Cont.																							
T74H (1936)	Own 331	6-3 1/2 x 5	Al	Top	35-	4°B	.012	.012	.012	AC	G9	18mm	.035	Z									
T75 (1936)	Own 400	6-4 1/2 x 5	Al	Top	42-	8°B	.012	.012	.012	AC	G9	18mm	.035	Z									
T78 (1936)	Own 450	6-4 1/2 x 5	Al	Top	42-	8°B	.012	.012	.012	AC	G9	18mm	.035	Z									
T14 (1937)	Olds 6	6-3 1/2 x 4 1/2	Al	Top	30-	5°B	.008	.008	.011	AC	K9	18mm	.033	D	2°B		Re	6 1 1/2 L	5 L	15 1/2	110		
T16 (1937)	Olds 6	6-3 1/2 x 4 1/2	Al	Top	30-	5°B	.008	.008	.011	AC	K9	18mm	.033	D	2°B		Re	6 7 L	7 1/2 L	15 1/2	110		
F16 (1937)	Olds 6	6-3 1/2 x 4 1/2	Al	Top	30-	5°B	.008	.008	.011	AC	K9	18mm	.033	D	2°B		Re	6 7 L	7 1/2 L	15 1/2	110		
T18H (1937)	Olds 6	6-3 1/2 x 4 1/2	Al	Top	30-	5°B	.008	.008	.011	AC	K9	18mm	.033	D	2°B		Re	6 7 L	7 1/2 L	15 1/2	110		
F18H (1937)	Olds 6	6-3 1/2 x 4 1/2	Al	Top	30-	5°B	.008	.008	.011	AC	K9	18mm	.033	D	2°B		Re	6 7 L	7 1/2 L	15 1/2	110		
T18 (1937)	Own 239	6-3 1/2 x 4 1/2	Al	Top	35-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	7 4 L	8 1/2 L	16			
F18 (1937)	Own 239	6-3 1/2 x 4 1/2	Al	Top	35-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	7 4 L	8 1/2 L	16			
T18H (1937)	Own 239	6-3 1/2 x 4 1/2	Al	Top	35-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	7 4 L	8 1/2 L	16			
F18H (1937)	Own 239	6-3 1/2 x 4 1/2	Al	Top	35-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	7 4 L	8 1/2 L	16			
T23 (1937)	Own 257	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	10 L	20			
F23 (1937)	Own 257	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	10 L	20			
T23H (1937)	Own 257	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	10 L	20			
F23H (1937)	Own 257	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	10 L	20			
T33 (1937)	Own 286	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	13 L	20			
F33 (1937)	Own 286	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	13 L	20			
T33H (1937)	Own 286	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	13 L	20			
F33H (1937)	Own 286	6-3 1/2 x 4 1/2	Al	Top	30-	4°B	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	8 7 L	13 L	20			
T48 (1937)	Own 331	6-3 1/2 x 5	Al	Bot	42-2400	8 1/2 A	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	12					
F48 (1937)	Own 331	6-3 1/2 x 5	Al	Bot	42-2400	8 1/2 A	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T48, 400 (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F48, 400 (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	V	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81 (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	12					
F81 (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	12					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
T81H (1937)	Own 400	6-4 1/2 x 5	Al	Top	42-	8 1/2 A	.008	V	V	AC	K7	14mm	.035	Z	15°B		Re	10					
F81H (1937)	Opt 450	6-4 1																					

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens		Intake Tapet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE		SPARK PLUG				Breaker Point Gap	Spark Occurs TC B-After	Spark Occurs Fly Wheel Teeth TC B-After	Breaker Housing	LUBRICANT CAPACITY Q.-Lb.			Cooling System Capacity (Qt.)	Comp. Pressure at Cranking Speed
						°TC	Flywheel Teeth/TC		Intake	Exhaust	Make	Type	Size	Gap					Engine	Transmission	Rear Axle		
LA FRANCE REPUBLIC—C3.																							
D4	Wau 6BK	6-3 1/2 x 4 1/4	CI	Top	40-	TC	TC	.010	.006-.008	.010-.012	AC	D10	18mm	.025					8	3 Q	40	22	112
E4	Wau 6BK	6-3 1/2 x 4 1/4	CI	Top	40-	TC	TC	.010	.006-.008	.010-.012	AC	D10	18mm	.025					8	3 Q	40	22	112
F4	Wau 6MK	6-4 1/2 x 4 1/4	CI	Top	40-	8"A		.004	.004-.006	.012-.014	AC	D10	18mm	.025					8	12 Q	7 1/2 Q	32	80
H6	Wau 6MK	6-4 1/2 x 4 1/4	CI	Top	40-	8"A		.004	.004-.006	.012-.014	AC	D10	18mm	.025					8	12 Q	7 1/2 Q	32	80
K1	Wau 6SRL	6-4 1/2 x 5 1/4	CI	Top	40-	10"A		.004	.006-.008	.016-.018	AC	L10	1 1/2	.025					10	6 Q	7 1/2 Q	36	80
M4	Wau 6-12S	6-4 1/2 x 5 1/4	AI	Top	40-	42"B		.010	.010-.012	.018-.020	AC	D8	18mm	.025					10	6 Q	9 Q	36	80
MACK, JR.—1M.																							
10M	MR 209	6-3 1/2 x 4 1/4	AI	Top	30-2000	2"B	1B	.012	.007	.008	Ch	C7	18mm	.025	.020	10"B	3B		5	2 L	2 L	15 1/2	85
20M	MR 209	6-3 1/2 x 4 1/4	AI	Top	30-2000	2"B	1B	.012	.007	.008	Ch	C7	18mm	.025	.020	10"B	3B		5	2 L	2 L	15 1/2	85
30M	MR 228	6-3 1/2 x 4 1/4	AI	Bot	40 Max.	5"B	2B	.012	.007	.008	Ch	C7	18mm	.025	.020	10"B	4B		6	2 L	2 L	19 1/2	85
90M	MR 268	6-3 1/2 x 5	AI	Bot	40 Max.	TC	TC	.012	.007	.008	Ch	C7	18mm	.025	.020	10"B	4B		6	2 L	2 L	19 1/2	85
90MS	MR	6-3 1/2 x 5	AI	Bot	40 Max.	TC	TC	.012	.007	.008	Ch	C7	18mm	.025	.020	10"B	3 1/2 B		6	12 L	9 L	24	78
MACK—BG-EC																							
EJ-S.R.	Own BG	6-3 1/2 x 5	Tp	Bot	50-	6"A	2A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	10	11 Q	6 Q	27	89
EM-S.R.	Own BG	6-3 1/2 x 5	Tp	Bot	50-	6"A	2A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	10	11 Q	6 Q	27	89
EQ-D.R.	Own CU	6-3 1/2 x 5	AI	Top	50-	6"A	2A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	10	11 Q	6 Q	27	89
EH	Own BG	6-3 1/2 x 5	AI	Top	50-	6"A	2A	.012	.008	.010	Ed	S18	18mm	.025	.020	7"B	2 1/2 B	Ad	10	11 Q	7 Q	27	89
BF-S.R., EB-S.R.	Own CU	6-3 1/2 x 5	AI	Top	50-	6"A	2A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	10	11 Q	7 Q	31	90
BF-D.R., EB-D.R.	Own CU	6-3 1/2 x 5	AI	Top	50-	6"A	2A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	10	11 Q	8 Q	31	90
AB Chain	Own AB	4-4 1/2 x 5	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	TC	TC	Mg	10	4 Q	6 Q	39	83
AB-D.R.	Own AB	4-4 1/2 x 5	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	TC	TC	Mg	10	4 Q	6 Q	39	83
BM	Own CE	6-4 1/2 x 5 1/4	Tp	Bot	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	16	10 1/2 Q	8 Q	42	91
CH	Own CE	6-4 1/2 x 5 1/4	Tp	Bot	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	16	8 Q	8 Q	44	91
BX Chain	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	16	10 1/2 Q	8 Q	45	91
BX-D.R.	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	16	10 1/2 Q	8 Q	45	91
CJ	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.020	7"B	2 1/2 B	Ad	16	8 Q	8 Q	46	91
BQ	Own BQ	6-4 1/2 x 5 1/4	Tp	Top	50-	10"A	4 1/2 A	.012	.008	.010	Ch	2	1 1/2	.025	.020	2"B	1B	Ad	16	14 Q	7 Q	52	84
AK4	Own AC	4-5x6	Tp	Top	30-	10"A	4 1/2 A	.012	.008	.010	Ch	8	18mm	.025	.020	TC	TC	Mg	8	14 Q	7 Q	71	65
AK6	Own BQ	6-4 1/2 x 5 1/4	Tp	Top	50-	10"A	4 1/2 A	.012	.008	.010	Ch	2	1 1/2	.025	.020	2"B	1B	Ad	16	14 Q	7 Q	90	84
AC 4	Own AC	4-5x6	Tp	Top	30-	10"A	4 1/2 A	.012	.008	.010	Ch	2	18mm	.025	.020	TC	TC	Mg	8	F		71	65
Six-Wheelers																							
BX-2W D.	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.025	7"B	2 1/2 B	Ad	16	10 1/2 Q	8 Q	45	91
BX-4W D.	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.025	7"B	2 1/2 B	Ad	16	10 1/2 Q	14 Q	45	91
CJ-2W D.	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.025	7"B	2 1/2 B	Ad	16	8 Q	8 Q	46	91
CJ-4W D.	Own CF	6-4 1/2 x 5 1/4	Tp	Top	35-	10"A	4A	.012	.008	.010	Ch	8	18mm	.025	.025	7"B	2 1/2 B	Ad	16	8 Q	14 Q	46	91
BQ-2W D.	Own BQ	6-4 1/2 x 5 1/4	Tp	Top	50-	10"A	4 1/2 A	.012	.008	.010	Ch	2	1 1/2	.025	.025	2"B	1B	Ad	16	14 Q	7 Q	52	84
BQ-4W D.	Own BQ	6-4 1/2 x 5 1/4	Tp	Top	50-	10"A	4 1/2 A	.012	.008	.010	Ch	2	1 1/2	.025	.025	2"B	1B	Ad	16	14 Q	14 Q	52	84
MARMON-HERRINGTON—																							
A10-4	Her JXA	6-3 1/2 x 4 1/4	...	Top	26-2600	2"A	1A	.006	.006	.006	Ch	1 COM	1 1/2	.025	.020	TC	TC	Re	6	4 Q	8 Q	22	96
A20-4	Her JXC	6-3 1/2 x 4 1/4	...	Top	26-2600	2"A	1A	.006	.006	.006	Ch	1 COM	1 1/2	.025	.020	TC	TC	Re	6	4 Q	8 Q	22	114
A30-4	Her WXC	6-4x4 1/2	...	Top	26-2600	2"A	1A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	Re	7	12 Q	9 Q	28	92
A40-4, A50-4	Her WXC3	6-4 1/2 x 4 1/4	...	Top	26-2600	2"A	1A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	Re	7	12 Q	9 Q	28	92
TH300-4	Her YXC	6-4 1/2 x 4 1/4	...	Top	26-2600	2"A	1A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	Re	10	13 Q	16 Q	36	91
TH310-4	Her YXC3	6-4 1/2 x 4 1/4	...	Top	26-2600	2"A	1A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	Re	10	13 Q	16 Q	40	103
TH310A-4, TH310A-6	Her RXC	6-4 1/2 x 5 1/4	AI	Top	26-2600	2"A	1A	.010	.006	.010	Ch	1 COM	18mm	.025	.020	TC	TC	Re	20	16 Q	18 Q	50	105
TH315-4, TH315-6	Her HXB	6-5x6	AI	Top	35-1600	5"B	2B	.015	.010	.016	Ch	1 COM	18mm	.025	.020	TC	TC	Re	20	8 Q	24 Q	50	105
TH320-4, TH320-6	Her HXC	6-5 1/2 x 6	AI	Top	35-1600	5"B	2B	.015	.010	.016	Ch	1 COM	18mm	.025	.020	TC	TC	Re	20	8 Q	24 Q	50	105
B10-4, C10-4	Her JXB	6-3 1/2 x 4 1/4	AI	Top	25 Max.	2"A	1A	.006	.006	.006	Ch	2 COM	1 1/2	.025	.020	TC	TC	Re	7	4 Q	8 Q	24	96
B20-4, C20-4, C20-6	Her JXC	6-3 1/2 x 4 1/4	AI	Top	25 Max.	2"A	1A	.006	.006	.006	Ch	2 COM	1 1/2	.025	.020	TC	TC	Re	7	4 Q	8 Q	24	114
B30-4, C30-4, C30-6	Her JXD	6-4x4 1/2	AI	Top	25 Max.	2"A	1A	.006	.006	.006	Ch	2 COM	1 1/2	.025	.020	TC	TC	Re	7	4 Q	8 Q	24	114
B40-4, B40-6, C40-4, C40-6	Her WXC3	6-4 1/2 x 4 1/4	AI	Top	25 Max.	2"A	1A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	Re	10	12 Q	9 Q	36	92
B50-4	Her WXC3	6-4 1/2 x 4 1/4	AI	Top	25 Max.	2"A	1A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	Re	10	12 Q	9 Q	36	92
B60-4, C55-4, C55, DR4, C60-4, C60-6	Her RXB	6-4 1/2 x 5 1/4	AI	Top	25 Max.	2"A	1A	.01	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	Re	12	12 Q	12 Q	36	103
B70-4, B70-6, C70-4	Her RXB	6-4 1/2 x 5 1/4	AI	Top	25 Max.	2"A	1A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	Re	12	12 Q	12 Q	40	103
B80-4, B80-6, C80-4, C80-6	Her RXC	6-4 1/2 x 5 1/4	AI	Top	25 Max.	2"A	1A	.010	.006	.010	Ch	8 COM	18mm	.025	.020	TC	TC	Re	12	12 Q	16 Q	40	103
TH415-4, TH415-6, TH515-4, TH515-6	Her HXB	6-5x6	AI	Top	25 Max.	5"B	2B	.015	.010	.016	Ch	8 COM	18mm	.025	.020	TC	TC	Re	24	16 Q	18 Q	50	105
TH420-4, TH420-6	Her HXD	6-5 1/2 x 6	AI	Top	25 Max.	5"B	2B	.015	.010	.016	Ch	8 COM	18mm	.025	.020	TC	TC	Re	24	16 Q	18 Q	50	105
B5-4x4	Ford V8	6-3 1/2 x 3 1/2	AI	Top	40 Max.	9 1/2"B		.013	Y	Y	Ch	7 COM	18mm	.025	.014	TC	TC	Re	5	1 1/2 Q	7 Q	25	95
B6-4x4	Ford V8	6-3 1/2 x 3 1/2	AI	Top	40 Max.	9 1/2"B		.013	Y	Y	Ch	7 COM	18mm	.025	.014	TC	TC	Re	5	1 1/2 Q	7 Q	25	95
B5-6x6	Ford V8	6-3 1/2 x 3 1/2	AI	Top	40 Max.	9 1/2"B																	

Comp. Pressure at Cranking Speed	TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After			OPERATING TAPPET CLEARANCE		SPARK PLUG				Breaker Point Gap	Spark Occurs °C B-Before A-After	Spark Occurs Fly-Wheel Teeth °C B-Before A-After	Breaker Housing	LUBRICANT CAPACITY Q-Qt. L-Lb.			Cooling System Capacity (Qt.)	Comp. Pressure at Cranking Speed
							TC	Flywheel Teeth TC	Intake Tappet Clearance for Valve Timing	Intake	Exhaust	Make	Type	Size	Gap					Engine	Transmission	Rear Axle		
112	REO—Cont.																							
112	4H5, 4J5, 4K5 (1936-1937)	Bud K423	6-4 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	40-20	TC	TC	.008	.008	.008	Ch	C7	18mm	.025	.020	10°B	Ad	9 12 L	15 L	31	70		
80	450 (1937)	Owv S140	4-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	TC	TC	.012	.007	.010	Ch	J7	14mm	.025	.020	6°B	Ad	4 2 $\frac{1}{4}$ L	2 3 $\frac{1}{2}$ L	12	90		
80	475 (1937)	Owv S140	4-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	TC	TC	.012	.007	.010	Ch	J7	14mm	.025	.020	6°B	Ad	4 2 $\frac{1}{4}$ L	2 3 $\frac{1}{2}$ L	12	90		
80	650 (1937)	Owv S209	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	2°B	2°B	.012	.007	.010	Ch	J6	14mm	.025	.020	2°B	Ad	5 2 $\frac{1}{4}$ L	2 3 $\frac{1}{2}$ L	14	90		
96	675 (1937)	Owv S209	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	2°B	2°B	.012	.007	.010	Ch	J6	14mm	.025	.020	2°B	Ad	5 2 $\frac{1}{4}$ L	2 3 $\frac{1}{2}$ L	14	90		
85	1A4-1C4 (1937)	Owv S209	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	2°B	2°B	.012	.007	.010	Ch	J6	14mm	.025	.020	2°B	Ad	5 2 $\frac{1}{4}$ L	2 3 $\frac{1}{2}$ L	14	90		
85	1A4H-1C4H (1937)	Owv S223	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Bot	35-20	5°B	2°B	.012	.007	.008	Ch	J6	14mm	.025	.020	5°B	Ad	6 6 L	9 9	15 $\frac{1}{2}$	90		
85	1B4-1D4 (1937)	Owv S223	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Bot	35-20	5°B	2°B	.012	.007	.008	Ch	J6	14mm	.025	.020	5°B	Ad	6 6 L	9 9	19	80		
78	1B4H-1D4H (1937)	Owv S3L	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Bot	35-20	18°A	7°B	.012	.007	.008	Ch	J6	14mm	.025	.020	8°B	Ad	6 6 L	9 9	19 $\frac{1}{2}$	80		
78	2B4-2D4 (1937)	Owv S3	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Bot	35-20	TC	TC	.012	.007	.008	Ch	J6	14mm	.025	.020	8°B	Ad	6 6 L	9 9	19 $\frac{1}{2}$	80		
78	2H5-2J5 (1937)	Owv S3	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Bot	35-20	TC	TC	.012	.007	.008	Ch	J6	14mm	.025	.020	8°B	Ad	6 12 L	9 9	19 $\frac{1}{2}$	80		
78	3H5-3J5-3K5 (1937)	Owv S5	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	TC	TC	.012	.007	.008	Ch	J6	14mm	.025	.020	8°B	Ad	6 12 L	15	25	80		
89	3H5-3J5-3K5 (1937)	Owv S5	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	35-20	TC	TC	.012	.007	.008	Ch	J6	14mm	.025	.020	8°B	Ad	6 12 L	15	25	80		
89	SCHACHT—20H, 20HA, 25H, 25HA, 35HA, 35A	Her WXC	6-4x4 $\frac{1}{2}$	Al	Top	26-2600	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	7			92		
90	40H, 40HA, 40HB, TRD, 40A	Her WXC2	6-4x4 $\frac{1}{2}$	Al	Top	26-2600	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	7			92		
90	66H, 66HA, TRDB	Her YXC	6-4x4 $\frac{1}{2}$	Al	Top	26-2600	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	10			75		
90	TRDA	Her YXC3	6-4x4 $\frac{1}{2}$	Al	Top	26-2600	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	10			75		
83	10A, 12A (1936)	Her JXB	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	30-2400	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	6 5 Q	4 Q	26	86		
83	15A (1936)	Her JXC	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	Al	Top	30-2400	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	6 5 $\frac{1}{2}$ Q	4 Q	27	86		
91	18A (1936)	Her JXD	6-4x4 $\frac{1}{2}$	Al	Top	30-2400	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	6 5 $\frac{1}{2}$ Q	4 Q	27	86		
91	20A (1936)	Her JXD	6-4x4 $\frac{1}{2}$	Al	Top	30-2400	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	6 5 $\frac{1}{2}$ Q	4 Q	27	86		
91	25A (1936)	Her WXC2	6-4x4 $\frac{1}{2}$	Al	Top	30-2400	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	7 12 Q	7 Q	20	75		
91	28A (1936)	Her WXC3	6-4x4 $\frac{1}{2}$	Al	Top	30-2400	2°A	2°A	.010	.006	.010	Ch	1 COM	1/2	.025	.020	TC	Re	7 12 Q	7 $\frac{1}{2}$ Q	20	75		
84	STERLING—FB50 DeL.	Wau 6BK	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	40-	TC	TC	.010	.010-.012	.014-.016	AC	D10	18mm	.025				8 3 Q	4 Q	22	112		
84	FB60 DeL.	Wau 6BK	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	40-	TC	TC	.010	.010-.012	.014-.016	AC	D10	18mm	.025				8 3 $\frac{1}{2}$ Q	4 Q	22	112		
84	FB70 DeL.	Wau 6BK	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	40-	TC	TC	.010	.010-.012	.014-.016	AC	D10	18mm	.025				8 4 Q	7 Q	22	112		
84	FC90	Wau 6BK	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	40-	TC	TC	.010	.010-.012	.014-.016	AC	D10	18mm	.025				8 4 $\frac{1}{2}$ Q	7 Q	22	112		
84	FBT130	Wau 6BK	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	40-	TC	TC	.010	.010-.012	.014-.016	AC	D10	18mm	.025				8 5 $\frac{1}{2}$ Q	7 Q	22	112		
84	FB-80	Wau 6MK	6-4x4 $\frac{1}{2}$	CI	Top	40-	8°A	3A	.004	.008-.010	.014-.016	AC	D10	18mm	.025				8 12 Q	5 $\frac{1}{2}$ Q	32	80		
84	FD90	Wau 6MK	6-4x4 $\frac{1}{2}$	CI	Top	40-	8°A	3A	.004	.008-.010	.014-.016	AC	D10	18mm	.025				8 12 Q	5 $\frac{1}{2}$ Q	32	80		
84	FD97	Wau 6SRL	6-4x4 $\frac{1}{2}$	CI	Top	40-	10°A	3A	.004	.008-.008	.016-.018	AC	L10	1/2	.025				10 6 Q	7 $\frac{1}{2}$ Q	36	80		
84	FC135	Wau 6SRL	6-4x4 $\frac{1}{2}$	CI	Top	40-	10°A	3A	.004	.008-.010	.016-.018	AC	L10	1/2	.025				10 6 Q	9 Q	36	80		
84	HC140	Wau 6SRL	6-4x4 $\frac{1}{2}$	CI	Top	40-	10°A	3A	.004	.008-.010	.016-.018	AC	L10	1/2	.025				10 6 Q	9 Q	44	80		
84	FD115	Wau 6-125	6-4x4 $\frac{1}{2}$	CI	Top	40-	42°B	15B	.010	.010-.012	.018-.020	AC	D8	18mm	.025				10 6 Q	9 Q	36	96		
84	FC100	Wau 6MZ	6-4x4 $\frac{1}{2}$	CI	Top	40-	8°A	3A	.004	.008-.010	.014-.016	AC	D10	18mm	.025				8 6 Q	9 Q	34	80		
84	FBT152	Wau 6-110	6-4x4 $\frac{1}{2}$	CI	Top	40-	15°B	5B	.010	.010-.012	.014-.016	AC	D8	18mm	.025				8 12 Q	7 $\frac{1}{2}$ Q	32	97		
84	HC170	Wau 6RB	6-5x5 $\frac{1}{2}$	CI	Top	40-	10°A	4A	.008	.008-.008	.010-.012	AC	L10	1/2	.025				14 7 Q	10 Q	48	76		
84	HCS210	Wau 6RB	6-5x5 $\frac{1}{2}$	CI	Top	40-	10°A	4A	.008	.008-.008	.010-.012	AC	L10	1/2	.025				14 7 Q	6 Q	48	76		
84	STUDEBAKER—T2	Owv	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	20 Min.	5°A	1 $\frac{1}{2}$ A	.010	.008	.010	Ch	7	18mm	.025	.020	1°B	Ad	6 3 Q	3 Q	17 $\frac{1}{2}$	75		
84	T4	Owv	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	20 Min.	5°A	1 $\frac{1}{2}$ A	.010	.008	.010	Ch	7	18mm	.025	.020	1°B	Ad	6 3 Q	4 Q	18	75		
84	T6	Owv	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	20 Min.	5°A	1 $\frac{1}{2}$ A	.010	.008	.010	Ch	7	18mm	.025	.020	1°B	Ad	6 3 Q	4 Q	18	75		
84	T8	Owv	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	CI	Top	20 Min.	5°A	1 $\frac{1}{2}$ A	.010	.008	.010	Ch	7	18mm	.025	.020	1°B	Ad	6 3 Q	5 Q	18	75		
84	W8	Wau 6-110	6-4x4 $\frac{1}{2}$	AI	Top	20 Min.	15°B	5B	.010	.012	.016	Ch	6M	18mm	.025	.020	3°B	Ad	9 5 Q	5 Q	34	80		
103	2T2, 2M2, 2T2 (1936)	Owv	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	AI	Top	20 Min.	5°B		.020	.016	.016	Ch	7B	18mm	.025	D 2°B		Ad	6 3 Q	3 Q	18			
103	2W6, 2M6, 2MB6 (1936)	Wau 6BM	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	AI	Top	20 Min.	TC	TC	.010	.012	.014	Ch	7B	18mm	.025	D TC	TC	Ad	8 3 Q	4 Q	21			
103	2W7 (1936)	Wau 6BK	6-3 $\frac{1}{2}$ x4 $\frac{1}{2}$	AI	Top	20 Min.	TC	TC	.010	.012	.014	Ch	7B	18mm	.025	D TC	TC	Ad	8 3 Q	4 Q	21			
103	2W																							

ENGINE SERVICE SPECIFICATIONS (Continued)

TRUCK MAKE AND MODEL	Engine Make and Model	Number of Cylinders, Bore and Stroke	Piston Material	Connecting Rods Removed From	Normal Oil Pressure Lb. at M.P.H. or R.P.M.	Intake Valve Opens B-Before A-After	Intake Tappet Clearance for Valve Timing	OPERATING TAPPET CLEARANCE		SPARK PLUG				Breaker Point Gap	Spark Occurs TC B-Before A-After	Spark Occurs Fly- Wheel Teeth TC B-Before A-After	Breaker Housing	LUBRICANT CAPACITY Q-Lb.			Cooling System Capacity (Qt.)	Comp. Pressure at Cranking Speed
								Intake	Exhaust	Make	Type	Size	Gap					Engine	Trans- mission	Rear Axle		
CONTINENTAL—Cont.																						
	E600	6-3 1/2 x 4 1/2	CI	Top	40-2600	8°B	2 1/2 B	.012	.007H	.012H		18mm						8				102
	E601	6-3 1/2 x 4 1/2	CI	Top	40-2600	8°B	2 1/2 B	.012	.00 H	.012H		18mm						8				97
	E602	6-4 1/2 x 4 1/2	CI	Top	40-2600	8°B	2 1/2 B	.012	.007H	.012H		18mm						8				102
	E603	6-4 1/2 x 4 1/2	CI	Top	40-2600	8°B	2 1/2 B	.012	.007H	.012H		18mm						8				99
	20R	6-4 1/2 x 4 1/2	AI	Top	30-2300	5°B	2B	.014	.012H	.015H		1 mm						10				88
	21R	6-4 1/2 x 4 1/2	AI	Top	30-2300	5°B	2B	.014	.012H	.015H		18mm						10				7
	22R	6-4 1/2 x 5 1/2	AI	Top	30-2300	5°B	2B	.014	.012H	.015H		18mm						10				76
	Y4069	4-2 1/2 x 4	CI	Top	35-40	TC	TC	.012	.010C	.012C		14mm						3 1/2				105
	Y4091	4-2 1/2 x 4	CI	Top	35-40	TC	TC	.012	.010C	.012C		14mm						3 1/2				105
	F4124	4-3 x 4	TP	Top	35-40	TC	TC	.012	.010C	.012C		18mm						4				105
	F4140	4-3 1/2 x 4	TP	Top	35-40	TC	TC	.012	.010C	.012C		18mm						4				105
	F4162	4-3 1/2 x 4	TP	Top	35-40	TC	TC	.012	.010C	.012C		18mm						4				105
HERCULES																						
	JXA	6-3 1/2 x 4 1/2	Var	Top	26-2800	5°A	Var	.008	.008	.010		1/2	.025	.020	TC	Var	Re	6				Opt
	JXB	6-3 1/2 x 4 1/2	Var	Top	26-2800	5°A	Var	.008	.008	.010		1/2	.025	.020	TC	Var	Re	6				Opt
	JXC	6-3 1/2 x 4 1/2	Var	Top	26-2800	5°A	Var	.008	.008	.010		1/2	.025	.020	TC	Var	Re	6				Opt
	JXD	6-4 x 4 1/2	Var	Top	26-2800	5°A	Var	.008	.008	.010		1/2	.025	.020	TC	Var	Re	6				Opt
	WXC	6-4 x 4 1/2	Var	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020		Var	Re	7				Opt
	WXC2	6-4 1/2 x 4 1/2	Var	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	7				Opt
	WXC3	6-4 1/2 x 4 1/2	Var	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	7				Opt
	YXC	6-4 1/2 x 4 1/2	Var	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	10				Opt
	YXC2	6-4 1/2 x 4 1/2	Var	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	10				Opt
	YXC3	6-4 1/2 x 4 1/2	Var	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	10				Opt
	RXB	6-4 1/2 x 5 1/2	AI	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	10				Opt
	RXC	6-4 1/2 x 5 1/2	AI	Top	26-2800	2°A	Var	.006	.006	.010		1/2	.025	.020	TC	Var	Re	10				Opt
	HXB	6-5 1/2 x 6	AI	Top	35-1800	5°B	Var	.010	.010	.016		1/2	.025	.020	TC	Var	Re	20				Opt
	HXC	6-5 1/2 x 6	AI	Top	35-1800	5°B	Var	.010	.010	.016		1/2	.025	.020	TC	Var	Re	20				Opt
	HXD	6-5 1/2 x 6	AI	Top	35-1800	5°B	Var	.010	.010	.016		1/2	.025	.020	TC	Var	Re	20				Opt
	HXE	6-5 1/2 x 6	Var	Top	35-1800	5°B	Var	.010	.010	.016		1/2	.025	.020	TC	Var	Re	20				Opt
	QXA	6-3 1/2 x 4 1/2	Var	Top	26-2800	5°B	Var	.006	.006	.008		1/2	.025	.020	TC	Var	Re	6				Opt
	QXB	6-3 1/2 x 4 1/2	Var	Top	26-2800	5°B	Var	.006	.006	.008		1/2	.025	.020	TC	Var	Re	6				Opt
	IXA	4-3 x 4	Var	Top	15-1000	5°A	Var	.006	.006	.008		1/2	.025	.020	TC	Var	Re	2 1/2				Opt
	IXB	4-3 1/2 x 4	Var	Top	15-1000	5°A	Var	.006	.006	.008		1/2	.025	.020	TC	Var	Re	2 1/2				Opt
	A	4-3 1/2 x 4 1/2	Var	Top	16-1000	5°A	Var	.008	.008	.008		1/2	.025	.020	TC	Var	Re	4				Opt
	B	4-3 1/2 x 4 1/2	Var	Top	16-1100	5°A	Var	.008	.008	.012		1/2	.025	.020	TC	Var	Re	4				Opt
	OOC	4-4 x 4 1/2	Var	Top	16-1000	5°A	Var	.008	.008	.012		1/2	.025	.020	TC	Var	Re	4				Opt
	DJXB	6-3 1/2 x 4 1/2	AI	Top	40-2000	12°B	Var	.010	.010	.016		INJ			INJ		Re	10				Opt
	DJXC	6-3 1/2 x 4 1/2	AI	Top	40-2000	12°B	Var	.010	.010	.016		INJ			INJ		Re	10				Opt
	DRXB	6-4 1/2 x 5 1/2	AI	Top	26-1200	12°B	Var	.010	.010	.016		INJ			INJ		Re	10				Opt
	DHXB	6-5 x 6	AI	Top	35-1600	5°B	Var	.010	.010	.016		INJ			INJ		Re	20				Opt
LYCOMING—(1929-32)																						
	CT	4-3 1/2 x 5	CI	Bot	40 Max.	TC	TC	.008	.006-.008	.006-.008		1/2	.025	.018				5				
(1929)	C4	4-4 x 5	CI	Bot	40 Max.	TC	TC	.008	.006-.008	.006-.008		1/2	.025	.018				5				
(1929) on	C4W	4-4 x 5	CI	Bot	40 Max.	TC	TC	.008	.006-.008	.006-.008		1/2	.025	.018				5				
(1929)	WSG	6-2 1/2 x 4 1/2	As	Bot	40 Max.	TC	TC	.010	.006-.008	.006-.008		1/2	.025	.01				6				
(1930-31)	WRG	6-2 1/2 x 4 1/2	As	Bot	40 Max.	5°B	1 1/2 B	.010	.006-.008	.006-.008		1/2	.025	.018				6				
(1931-32)	WTG	6-3 x 4 1/2	CI	Bot	40 Max.	5°B	1 1/2 B	.010	.006-.008	.006-.008		1/2	.025	.018				6				
(1929-31)	4SL	6-3 1/2 x 4 1/2	CI	Bot	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.018				6				
(1932) on	SA	6-3 1/2 x 4 1/2	CI	Bot	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.018				6				
(1932) on	SB	6-3 1/2 x 4 1/2	CI	Bot	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.018				6				
(1933)	SC	6-3 1/2 x 4 1/2	CI	Bot	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.01				6				
(1929-31)	TF	6-3 1/2 x 5	AI	Bot	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.018				6				
(1930-33)	TV	6-3 1/2 x 5	AI	Top	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.018				8				
(1929-34)	TS	6-3 1/2 x 5	AI	Top	40 Max.	5°A	1 1/2 A	.010	.006-.008	.010-.012		1/2	.025	.018				8				
(1930-32)	AEC	6-3 1/2 x 4 1/2	CI	Top	40 Max.	5°B	1 1/2 B	.012	.008-.010	.010-.012		18mm	.025	.018				9				
(1930-32)	AED	6-3 1/2 x 4 1/2	CI	Top	40 Max.	5°B	1 1/2 B	.012	.008-.010	.010-.012		18mm	.025	.018				9				
(1933) on	AEF	6-3 1/2 x 4 1/2	CI	Top	40 Max.	5°B	1 1/2 B	.012	.008-.010	.010-.012		1 mm	.025	.018				11				
(1930)	ASA	6-3 1/2 x 4 1/2	CI	Top	40 Max.	5°A	1 1/2 A	.012	.008-.010	.010-.012		18mm	.025	.018				7				
(1930-33)	ASB	6-3 1/2 x 4 1/2	CI	Top	40 Max.	5°A	1 1/2 A	.012	.008-.010	.010-.012		18mm	.025	.018				7				
(1930-33)	ASD	6-3 1/2 x 4 1/2	CI	Top	40 Max.	5°A	1 1/2 A	.012	.008-.010	.010-.012		18mm	.025	.018				7				
(1934) on	ASE	6-3 1/2 x 4 1/2	CI	Bot	40 Max.	5°A	1 1/2 A	.012	.008-.010	.010-.012		18mm	.025	.018				7				
(1930) on	AFE	4-3 1/2 x 4 1/2	CI	Bot	40 Max.	TC	TC	.008	.006-.008	.006-.008		1/2	.025	.018				5				
(1931) on	HFA	6-3 1/2 x 4 1/2	CI	Bot	40 Max.	5°B	1 1/2 B	.012	.008-.010	.008-.010		18mm	.025	.018				8				
(1934) on	GF	6-3 1/2 x 4 1/2	AI	Bot	40 Max.	7 1/2°B	2 1/2 B	.012	.008-.010	.008-.010		18mm	.025	.018				8				
(1934) on	WFC	6-3 1/2 x 4 1/2	AI	Bot	40 Max.	7 1/2°B	2 1/2 B	.012	.008-.010	.008-.010		14mm	.025	.018				6				
WAUKESHA																						
	6BK	6-3 1/2 x 4 1/2	CI	Top	40-1500	TC	TC	.010	.012-.014	.014-.016		18mm	.025					8				112
	6MS	6-3 1/2 x 4 1/2	CI	Top	40-1500	8°A		.004	.008-.010	.012-.014		18mm	.025					8				86
	6ML	6-4 x 4 1/2	CI	Top	40-1500	8°A	3A	.004	.008-.010	.014-.016		18mm	.025					8				89
	6MK	6-4 1/2 x 4 1/2	CI	Top	40-1500	8°A	3A	.004	.008-.010	.014-.016		18mm	.025					8				80
	6MZ	6-4 1/2 x 4 1/2	CI	Top	40-1500	8°A	3A	.004	.008-.010	.014-.016		18mm	.025					8				80
	6SRL	6-4 1/2 x 5 1/2	CI	Top	40-1500	10°A	3A	.004	.008-.010	.016-.018		1/2	.025					10				80
	6SRK	6-4 1/2 x 5 1/2	Var	Top	40-1500	10°A	3A	.0	.008-.010	.016-.018		1/2	.025					10				80
	6AB	6-4 1/2 x 5 1/2	CI	Top	40-1500	10°A		.008	.004-.006	.003-.010		1/2	.025					14				76
	6RB	6-5 x 5 1/2	AI	Top	40-1500	10°A	4A	.008	.006-.008	.010-.012		1/2	.025					14				76

GUIDE TO SYMBOLS AND ABBREVIATIONS

Al—Aluminum
As—Strut Type Aluminum
Aa—Anodized Aluminum
CA—Cast Alloy
CI—Cast Iron
St—Alloy Steel
TP—Tin Plated Cast Iron
C—Cold
H—Hot
Bot—Bottom
Top—Top PB—Pull Back

AC—AC
Bo—Bosch
Ch—Champion
ED—Edison
L—Lbs.
Q—Qts.
*—Aluminum Lead
Au—Automatic
Ad—Advance
Re—Retard
Mag—Magneto
Bud—Buda
Con—Continental
Her—Hercules

Lyc—Lycoming
Opt—Optional
Var—Variable
Wau—Waukesha
B—8Q-Front
8Q-Rear
A—7Q-Tran.
6Q-Aux.
C—12Q-Summer
9Q-Winter
G—4Q-Summer
5Q-Winter
R—4Q-Summer
6Q-Winter

W-7Q-Summer
12 Q-Winter
X-9Q-Summer
12 Q-Winter
S-.023-.028
Z-.018-.022
V-.012-.014
Y-.0125-.135
YY-.014-.016
GI-Grey Iron
CI-Cast Iron
SS-Semi Steel
H-Hot
C-Cold

COM—Commercial
H—.015-.025
E—.018-.020
D—.018-.024
K—.020-.025
Ch—Chrome Nickel Iron
F—.018-.023
F—24Q—including Jackshaft
J—10L—Summer
15L—Winter
N—145Q—and 6Qt.
O—8Q and 5Q

ENGINE KNOCK



A—CONNECTING RODS

- A1. Loose connecting rod bearing
- A2. Loose piston pins or worn piston pin bushings
- A3. Connecting rods bent or twisted

B—PISTONS

- B1. Piston slap, worn pistons or cylinders, tight piston pins
- B2. Rattle when piston rings are broken or loose in grooves
- B3. New piston rings in worn cylinder striking shoulder
- B4. Loose piston struts

C—CYLINDERS

- C1. Carbon knock
- C2. Fuel knock or detonation
- C3. Ignition timed too early or sticking automatic spark advance
- C4. Cylinder not at right angle to crankshaft
- C5. Wrong cylinder head gasket
- C6. Loose cylinder block

D—CRANKSHAFT

- D1. Loose main bearings
- D2. End-play in crankshaft
- D3. Loose flywheel, counterweights, vibration dampener or timing gear
- D4. Bent or sprung crankshaft

E—CAMSHAFT DRIVE

- E1. Improperly adjusted timing chain
- E2. Worn timing gears
- E3. Main bearings adjusted so tightly that timing gears engage in too close mesh
- E4. Metal chip wedged between teeth of timing gear
- E5. Timing gear loose on shaft
- E6. Off center gears

F—VALVE ACTION

- F1. Too much clearance between valve and tappet
- F2. Worn valve lifter rollers, pins, or mushroom
- F3. Worn valve lifter or guide
- F4. Worn valve stem guides
- F5. Worn rocker arm shafts or bushings
- F6. Loose rocker armshaft bracket
- F7. Flat spot on rocker arm
- F8. Broken or weak valve springs

G—CAMSHAFT GROUP

- G1. Worn camshaft bearings
- G2. End-play in camshaft
- G3. Flat spot on the heel of a cam

H—ENGINE GENERAL

- H1. Loose engine support bolts
- H2. Engine support brackets loose in frame
- H3. Worn bushings on accessory shaft
- H4. Too much pressure or air lock on plunger type oil pumps
- H5. Loose or worn magneto, pump, or generator couplings
- H6. Broken spring in fuel pump

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TRUBLE Shooting GUIDE

The accompanying chart analyzes all the factors in three main engine troubles — knocks, excessive oil consumption, and overheating. No explanation of remedy is offered because in principle the remedy is obvious and in practice it is varied owing to circumstances and conditions.

The trouble shooter can use this chart as a guide or as a reminder to prevent his overlooking any factors causing trouble or affecting the source of trouble. A combination of several minor conditions may be more puzzling and harder to locate than one major one.

EXCESSIVE OIL CONSUMPTION



A—OIL PUMPING

- A1. Insufficient ring tension
- A2. Insufficient clearance at ring gap
- A3. Rings too loose or too tight in grooves
- A4. Uneven ring pressure against cylinder wall
- A5. Warped or twisted rings
- A6. Too much clearance behind compression ring
- A7. Too little clearance behind oil ring
- A8. Out of round and tapered cylinders
- A9. Cylinders not at right angles to the crankshaft
- A10. Worn pistons and cylinder walls
- A11. Misaligned connecting rods
- A12. Loose and elliptical shaped engine bearings
- A13. Mismatched bearing halves
- A14. Too much clearance between valve stems and guides
- A15. Excessive oil pressure
- A16. Thin or diluted oil

B—OIL LEAKS

- B1. Oil pan
- B2. Rear main bearing
- B3. Front main bearing
- B4. Oil pump
- B5. Rear camshaft bearing
- B6. Timing case cover
- B7. Valve tappet cover
- B8. Rocker arm cover
- B9. Accessory shaft opening in timing case

OVERHEATING



A—RADIATOR

- A1. Insufficient supply of water
- A2. Obstructed air flow
- A3. Radiator core covered with heavy paint
- A4. Fins or air passages stopped up with mud or insects
- A5. Tubes or passages pinched, bent or dented.

- A6. Shutter not opening fully
- A7. Anti-freeze not removed
- A8. Bent or loose baffle plate
- A9. Leak in overflow pipe
- A10. Pinched overflow pipe
- A11. Inside of tubes or passages clogged with sediment, etc.
- A12. Thermostat not functioning properly
- A13. Incorrect radiator core

B—FAN

- B1. Slipping fan belt
- B2. Fan pulley worn too smooth or wide in groove
- B3. Fan bearings tight, dry, or defective
- B4. Fan blades too flat

C—WATER HOSE

- C1. Hose old or thin causing collapse from pump suction
- C2. Rotted internally permitting lining to impede circulation

D—WATER PUMP

- D1. Loose impeller
- D2. Excess wear between impeller and housing
- D3. Worn pump shaft or packing

E—WATER JACKET

- E1. Core not completely removed from casting
- E2. Circulating holes partially stopped up
- E3. Insulated with rust, etc., or stopped up with hose fragments
- E4. Improper cylinder head gasket

F—ENGINE

- F1. Engine tight, new or overhauled
- F2. Oil pump not circulating efficiently
- F3. Oil too thin or diluted, or too heavy
- F4. Improper valve timing
- F5. Valves not properly seated
- F6. Pistons and rings not properly fitted
- F7. Excessive piston ring wall pressure
- F8. Scored cylinder walls
- F9. Insufficient clearance at ring ends

G—CARBURETOR & MANIFOLDS

- G1. Mixture too rich or too lean
- G2. Air leaks in manifold
- G3. Improper regulation of heat control

H—IGNITION

- H1. Improperly timed ignition or sticking spark advance



TRUCK Lubrication SPECIFICATIONS



TRUCK MAKE AND MODEL	ENGINE Viscosity and Temperature Range		TRANSMISSION		REAR AXLE		STEERING GEAR		UNIVERSAL JOINT
			Summer	Winter	Summer	Winter	Summer	Winter	
AUTOCAR—All (1935-36-37).....	50 (S)	40 (W)	160	110	160	110	160	110	160
AVAILABLE—W120, W150, W170, W210, W240, P106 (1934-37).....	40 above 32° 60 or 50 above 32° 30 above 32°	30 below 32° 50 or 40 below 32° 20W below 32°	160 160 160	110 110 110	160 160 160	110 110 110	160 160 160	110 110 110	FG160* FG160* 160
P-105 (1937).....	50 (S)	30 (W)	160	110	160	110	160	110	160-110
BIEDERMAN—20, 40, 80, 80 (1937).....	LD30 above 32°	HD40 above 32°	160	110	160	110	160	110	160
BROCKWAY—76, 88, 92, 94 (1935-37).....	LD40 above 32°	HD40 or 5 above 32°	160	110	160	110	160	110	160
87, 90X, 96, 110, 125X, 146, 160X4, 160X6, 160X, 170X, 175X, 180XSBT, 180XSBT Spec., 195X, 220X, 240X, 260X (1934-37).....	LD40 above 32°	HD50 above 32°	160	110	160	110	160	110	160
V1200 (1934-35).....	30 above 50°	20@30°-50°	160	90†	160	90†	160	90†	160-90
CHEVROLET—All Models (1936-37).....	10W — 10°-10°	10W — 10°-10°	160	90†	160	90†	160	90†	160-90
All Models (1935).....	20 above 75°	10W@32°-75°	160	90†	160	90†	160	90†	160-90
All Models (1934).....	10W@10W	10W@10W	160	90†	160	90†	160	90†	160-90
COLEMAN—All Buick Engine Models All Sterling Engine Models.....	LD(S)40 50	HD(S)50 60	110	90	160	110	160	110	160
CORBITT—All Models (1934-37).....	(S)40	(W)30	160	110	160	110	160	110	160
DAY-ELDER—76, 85, 110, 103, 150, 160, 200, 240, 285, 402, 30A, 30B (1934-35-36).....	40 (S)	30 (W)	160	110	160	110	160	110	160
76, 86, 111, 151, 161, 201, 241, 266, 403, 30B, 25B (1935-37).....	40 (S)	30 (W)	160	110	160	110	160	110	160
DIAMOND—T-211, 211A, 220, 226, 227, 242, 243, 262, 311B, 311C, 312, 351B, 351C, 362, 411B, 412B, 511B, 512B (1934-35).....	40 above 40°	30 below 40°	160	90	**160	**90	160	160	160
311DR, 351DR, 411DR, 412DR, 511DR, 512DR (1935-36).....	40 above 40°	30 below 40°	160	90	**110EP	**110EP	160	160	160
226, 412B, 512B, 80, 212A, 212B, 221, 244, 313, 320, 353, 360 (1936-37).....	40 above 40°	30 below 40°	160	90	**160	**90	160	160	160
412DR, 512DR (1936-37).....	40 above 40°	30 below 40°	160	90	**110EP	**110EP	160	160	160
DODGE—LC (1935-36).....	30 @ 32°-100°	40 above 100°	160	90	160	90	160	90	FG
10W @ 0°-15°	90% 10W,	10% Kerbelow-15°	160EP	90EP	160EP	90EP	160	90	FG
40 @ 32°-100°	90% 10W,	10% Kerbelow-15°	160EP	90EP	160EP	90EP	160	90	FG
10W @ 0°-15°	90% 10W,	10% Kerbelow-15°	160EP	90EP	160EP	90EP	160	90	FG
DUPLEX—S, SAC, K (1934-35-36-37).....	20 below 5°	30 @ 5°-50°	200EP	110EP	200EP	110EP	200EP	110EP	FG
ESCO—135 (1934-35).....	40 above 90°	30 @ 32°-90°	200EP	110EP	200EP	110EP	200EP	110EP	FG
235, 235H, 335 (1934-35).....	40 above 90°	30 @ 32°-90°	200EP	110EP	200EP	110EP	200EP	110EP	FG
235-O, 335-O (1934-35).....	40 above 90°	30 @ 32°-90°	200EP	110EP	200EP	110EP	200EP	110EP	FG
237-O, 337-O (1936-37).....	40 above 90°	30 @ 32°-90°	200EP	110EP	200EP	110EP	200EP	110EP	FG
FEDERAL—15, 18, 20, 25, T108, T10W (1935).....	30 @ (S&W)	50 (S)	160	160	160	160	160	160	160
28, 30, 30, 40, 40DR, 50, C7, X6, X8R (1935).....	30 @ (S&W)	50 (S)	160	160	160	160	160	160	160
All (1936-37).....	20 (W)	30 (W)	160	160	160	160	160	160	160
FORD—All (1932-37).....	50 above 90°	40 @ 30°-110°	160	90 or 110	160EP	90EP or 110EP	160	90 or 110	110
20 or 20W @ 0°-50°	10 or 10W @ 15°-30°	10% Kerbelow-10°	160	90 or 110	160EP	90EP or 110EP	160	90 or 110	160
FWD—HS, T28 (1934-35).....	(S)40	(W)30	160EP	90EP	160EP	90EP	160EP	90EP	160
H6, H16, CUB, CUBA, SSU, SSUA, M5, M6, LBU, M05, 80T, 72T (1934-35).....	(S)50	(W)40	160EP	90EP	160EP	90EP	160EP	90EP	160
M7 (1934-35).....	(S)60	(W)50	160	90 below 15° 110 @ 15°-35°	160	90 below 15° 110 @ 15°-35°	160	90 below 15° 110 @ 15°-35°	110
GENERAL MOTORS—T16, T18, T33, T33L (1934-35).....	30 @ 32°-90°	40 above 90°	160	90 below 15° 110 @ 15°-35°	160	90 below 15° 110 @ 15°-35°	160	90 below 15° 110 @ 15°-35°	160
T46 (1934-35).....	40 @ 32°-90°	50 above 90°	160	90 below 15° 110 @ 15°-35°	160	90 below 15° 110 @ 15°-35°	160	90 below 15° 110 @ 15°-35°	160

[illegible]

FOR LUBRICANT CAPACITIES BY TRUCK MODELS SEE PAGES 28 TO 34

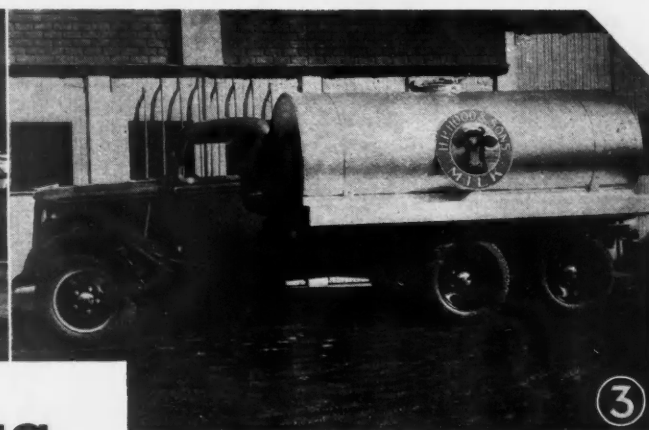
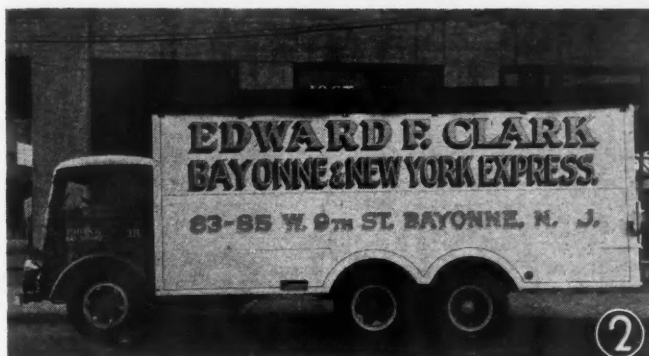
ABBREVIATIONS:
 F—Flare Grease for pin and bushing type,
 160 for needle bearing type.
 **—Use 110EP below 30°, 160EP above 30°
 on all 2-speed axles.
 ***—Use 160EP on 5-speed transmissions,
 160 for needle bearing type.
 †—10% kerosene in extremely low tempera-
 tures.
 ‡—Use 40 for high speed above 400°/min.
 †††—Use winter oils if desirable for specific
 conditions.
 §—Use 50 in extremely hot weather,
 conditions.
 A—Also front axle.
 N—New Trucks.
 O—Old Trucks.
 M—M110.
 (W)—Winter.
 (LD)—Light Duty.
 (EP)—Extreme Pressure.
 (S)—Summer.
 \$S—Sodium Soap.
 Kero—Kerosene.
 FG—Fibre Grease.



Third AXLE

Illustrations are of (1) White equipped with Truxmore third axle; (2) Mack with a Trucktor unit; (3) Ford with Warford unit; (4) Ford with a Thornton-Tandem unit

THIRD AXLE MAKE AND MODEL and Truck Model adapted to	Capacity (Lb.) See Explanatory Notes	Price (f. o. b. factory)	Weight (Lb.) with Max. Tires, Frame Extension, Etc.	Maximum Tire Size	LOAD DIS- TRIBUTION RANGE		Axle Spacing (with maximum tires)	AXLE DATA			BRAKES (Standard)				Lining Area	Number of Points of Frame Support	Spring Size or Number Leaves Added	Spindle Diameter (at inner bearing)
					(First figure of combination applies to center axle; second figure to third axle)			Make	Type	Size	Make and Type	Drum Material	Brake Diameter and Width					
Trailing Axles																		
ACME																		
50 (Ford 1½)	10000	320	1460	32x6-10	50-50		42	Own	T	3¾	BM	CA	16x2½	181	2	4 or 6	2½	
60-H (Chevrolet 1½)	10000	350	1560	34x7-10	50-50		42	Own	T	3¾	CH	PS	16x3	217	2	7 or 9	2½	
GUILDER																		
C (All Makes)	8000	499	1420	32x6-10	50-50	65-35*	46	Tim	T	3¾	LHV†	CA	16x2½	135	6	39x2½	2½	
E (All Makes)	8000	544	1710	7.50/20	50-50	65-35*	46	Tim	T	3¾	LHV†	CA	16x2½	135	6	39x2½	2½	
F (All Makes)	10000	645	1810	34x7	50-50	65-35*	46	Tim	T	4	LHV†	CA	16x2½	135	6	39x2½	2½	
H (All Makes)	10000	695	2369	8.25/20	50-50	65-35*	48	Tim	T	4	LHV†	CA	16x3½	206	6	40x3	2½	
J (All Makes)	12000	803	2464	9.00/20	50-50	65-35*	48	Tim	T	4½	LHV†	CA	16x3½	206	6	40x3	2½	
K (All Makes)	12000	928	2660	9.75/20	50-50	65-35*	48	Tim	T	4½	LHV†	CA	17½x4	296	6	40x3	2½	
K-L (All Makes)	12000	1078	2850	9.75/20	55-45	65-35*	49	Tim	T	4½	LHV†	CA	17½x4	296	6	42x3½	2½	
L (All Makes)	14000	1177	3075	10.50/24	55-45	65-35*	52	Tim	T	5	LHV†	CA	17½x4	296	6	42x3½	2½	
M (All Makes)	16000	1294	3200	10.50/24	55-45	65-35*	52	Tim	T	5	LHV†	CA	17½x5	370	6	42x3½	3	
HI-LO																		
F-37 (Ford 1½)	11000	359	1650	32x6-10	60-40		43¾	Lig	Sq	2½	BMV	CA	16x2½	167	1	4 to 6	2½	
C-37 (Chevrolet 1½)	11000	440	1800	32x6-10	60-40		44¾	Lig	Sq	2½	LHV	CA	16x2½	150	1	10 to 11	2½	
LE MOON																		
TU (Ford 1½)	10000	350	900	32x6-10	50-50		40	Tim	T	3¾	BM	CA	16x2½	158	1	1 plate	2½	
LITTLE GIANT																		
6-ton (For any 1½ ton truck)	12000	308	1200	32x6	50-50	60-40	42	Own	Sr	2½	LHV†	CA	16x2½	167	6	22x2½	2	
8-ton (For any 1½ ton truck)	16000	451	1575	32x6	50-50		42	Shu	Sq	2½	LHV†	CA	16x2½	167	4	42x2½	3	
8-ton (For any 2 ton truck)	16000	575	2000	8.25/20	50-50		42	Shu	Sq	2½	LHV†	CA	16x3	180	4	42x3	3	
10-ton (For any 2½ to 5 ton truck)	20000	695	2410	9.75/20	50-50		44	Shu	Sq	4	LHV†	CA	17x4	250	4	44x3½	3	
PERFECTION																		
HDF (Ford)	10000	380	1804	32x6-10	50-50		42	Own	Sr	2½	BM	CI	16x2½	167	2	42x3	2	
HDC (Chevrolet)	10000	440	1824	32x6-10	50-50		42	Own	Sr	2½	BMV	CI	16x2½	167	2	42x3	2	
THORNTON TANDEN																		
H-30 (For 2 to 4 ton standard trucks)	13000	***	6400	9.00-20	50	50	42½	Tim	Sq	3¾	LH†	CA	16x3½	205	3	42x2½	2½	
TIMKEN																		
SBT-800-H (Federal 15, 18, 20; GMC T-16, T-18; Brockway 78, 87, 90X, 96; Indiana 88; Diamond T 212-A; Dodge LF-35; Studebaker Ace)	8000		1910	7.50/20	55-45		44	Tim	T	3¾	LHV	CA	16x3½	132	1	48x2½	2½	
ST-730-BY (Ford 1½)	8000		1674	32x6-10	55-45		44	Tim	T	3¾	BMV†	CA	15x2½	158	1	48x2½	2½	
ST-741-H (Chevrolet 1½)	8000		1681	32x6-10	55-45		44	Tim	T	3¾	LHV	CA	16x2½	132	1	48x2½	2½	
TRUCKTOR (x)																		
HLF (Ford 1½)	8800	432	1750	32x6-10	50-50	60-40	40	Own	Sr	3	BMV	CA	16x2½	179	6	38½x2½	2½	
HLC (Chevrolet 1½)	8800	432	1750	32x6-10	50-50	60-40	41	Own	Sr	3	CHV	CA	16x3	219	6	38½x2½	2½	
HLD (Dodge 1½)	8800	432	1750	32x6-10	50-50	60-40	41	Own	Sr	3	LHV	CA	16x2½	132	6	38½x2½	2½	
HLL (Light trucks tires to 34x7 inclusive)	11000	557	1895	34x7	50-50	60-40	45	Own	Sr	3	LHV†	CA	16x2½	132	6	38½x2½	2½	
HLR (Medium truck tires to 9.75/20 inclusive)	16000	999	2600	9.75-20	50-50	60-40	48	Own	Sr	3½	LHV†	CA	16x3½	205	6	40x3	2½	
HR (Heavy trucks tires above sizes listed)	21000	1218	3200	10.50/24	50-50	60-40	52	Own	Sr	4	LHV†	CA	17½x4	251	6	41½x3	3½	



SPECIFICATIONS



THIRD AXLE MAKE AND MODEL and Truck Model adapted to	Capacity (Lb.) See Explanatory Notes	Price (f. o. b. factory)	Weight (Lb.) with Max. Tires, Frame Extension, Etc.	Maximum Tire Size	LOAD DIS- TRIBUTION RANGE		Axle Spacing (with maximum tire)	AXLE DATA			BRAKES (Standard)					Lining Area	Number of Points of Frame Support	Spring Size or Number Leaves Added	Spindle Diameter (at inner bearing)
					(First Figure of combination applies to center axle; second figure to third axle)			Make	Type	Size	Make and Type	Drum Material	Brake Diameter and Width						
Trailing Axles—Continued																			
TRUXMORE																			
17 (Ford).....	8800	435	1691	32x6-10	55-45	65-35*	42	Own	Sq	2 1/2	BMV†	CA	16x2 1/2	179	4	**	2 1/4		
17 (Chevrolet).....	8800	435	1691	32x6-10	55-45	65-35*	42	Own	Sq	2 1/2	LHV†	CA	16x2 1/2	150	4	**	2 1/4		
20 (All makes).....	8800	485	1784	32x6-10	55-45	65-35*	42	Own	Sq	2 1/2	LHV†	CA	16x2 1/2	150	4	**	2 1/4		
25 (All makes).....	11200	740	2206	34x7	52-48	65-35*	46	Own	Sq	2 1/2	LHV†	CA	16x3 1/2	206	4	**	2 1/2		
30 (All makes).....	13000	990	2509	9.00/20	50-50	65-35*	46	Own	Sq	3	LHV†	CA	17 1/4 x 4	251	4	**	2 1/4		
40 (All makes).....	20800	1110	3336	10.50/24	50-50	65-35*	51	Own	Sq	3 1/2	LHV†	CA	17 1/4 x 4	251	4	**	3 1/4		
UTILITY																			
15 (For any 1 1/2 ton truck).....	7500	303	900	7.00/20	55-45	66-33	40	Own	Sq	2 1/2	BM†	CA	15x2 1/2	152	4	None	2 1/4		
25 (For any 2 ton truck).....	9000	389	1100	7.50/20	55-45	66-33	41	Own	Sq	2 1/2	OMV†	CA	18x3 1/2	210	4	None	2 1/4		
30 (For any 3 1/2 ton truck).....	13000	594	1600	9.00/20	55-45	66-33	44	Own	Sq	3	OMV†	CA	17x4	264	4	None	2 1/4		
35 (For any 5 ton truck).....	18000	700	1900	10.50/24	55-45	66-33	50	Own	Sq	3 1/2	OMV†	CA	17x4	264	4	None	2 1/4		
Driving Axles																			
GRICO																			
(Ford 1 1/2).....	10000	738	6200†	34x7-10	50-50	.....	42 1/2	Ford	T	3 1/2	FM	CA	14x2 1/2	175	3	42 1/2 x 2 1/4	2 1/4	
(Chevrolet 1 1/2).....	10000	702	6100†	34x7-10	50-50	.....	42 1/2	Chev	T	3 1/2	LH	CA	16x3	214	4	42 1/2 x 2 1/4	2 1/4	
THORNTON TANDEM																			
AF (Ford 1 1/2).....	10000	735	6400†	34x7-10	50-50	.....	42	Ford	T	3 1/2	BM	CA	14x2 1/2	174	3	42x2 1/4	2 1/4	
AC (Chevrolet 1 1/2).....	10000	735	6350†	34x7-10	50-50	.....	42	Chev	T	3 1/2	LH	CA	16x3	215	3	42x2 1/4	2 1/4	

ABBREVIATIONS:

General
 ***—Prices under revision
 *—Load distribution may be shifted readily even when truck is loaded, on the road
 **—Truxmore—Heavy steel beams (cushioned by patented spring arrangement) used in place of leaf springs.
 †—Weights include both driving axles.
 (x)—Patented 4-wheel chain drive available for all Truxtor units.

COLUMN 9
 Chev—Chevrolet
 Ford—Ford
 Lig—Liggett
 Own—Own
 Shu—Shuler
 Tim—Timken

COLUMN 10
 Sq—Square Sr—Solid round
 T—Tubular
COLUMN 12
 B—Bendix L—Lockheed
 C—Chevrolet M—Mechanical
 F—Ford O—Own
 H—Hydraulic V—Vacuum power
COLUMN 13
 CA—Cast Alloy Iron CI—Cast iron
 PS—Pressed steel

†—OPTIONAL BRAKES
 Guilder—Bendix on all; Westinghouse Air and Timken on all except C & E.
 Little Giant—Own or Bendix.
 Thornton Tandem—Bendix
 Timken—16 x 2 1/2 brake optional.
 Truxtor—Bendix and Timken with air or vacuum power.
 Truxmore—On application.
 Utility—Bendix and Lockheed.

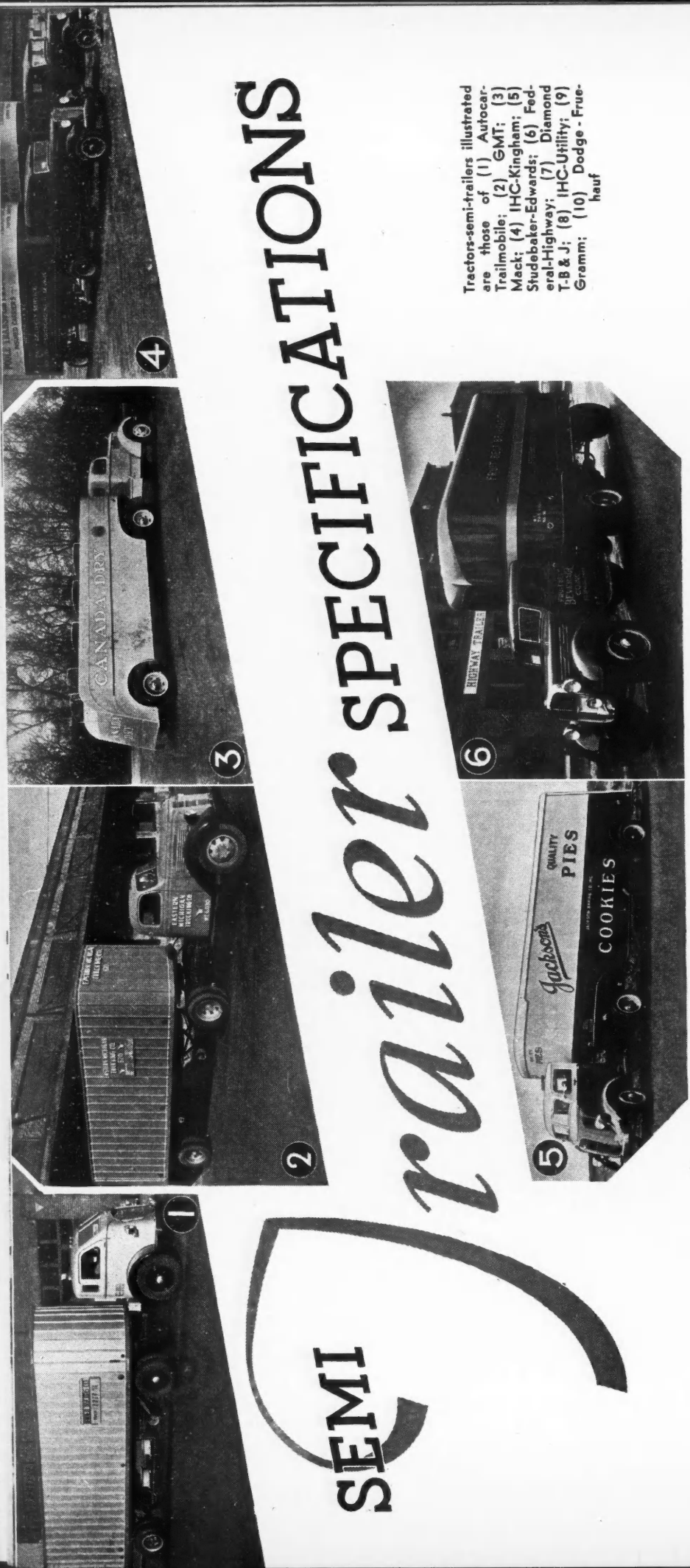
Notes on Headings

General—(a) The capacity of the third axle (Column 2) is not to be confused with the total capacity made possible on the converted vehicle.

Column 3. The price of the unit includes the standard brakes specified in brake column and frame extensions that extend forward under the cab. Tires and brake (air or vacuum) power are not included in price.

Column 4. Weight of third axle unit includes all appurtenances and maximum tires.

Column 15 gives brake lining area of attachment unit only.



SEMI trailer SPECIFICATIONS

Tractors-semi-trailers illustrated are those of (1) Autocar; (2) Trailmobile; (3) GMT; (4) Mack; (5) IHC-Kingham; (6) Studebaker-Edwards; (7) Federal-Highway; (8) Diamond T-B & J; (9) IHC-Utility; (10) Dodge-Fruehauf

SEMI-TRAILER MAKE AND MODEL	CHASSIS				TIRE SIZE		FRAME				SPRINGS				BRAKES				AXLE				FIFTH WHEEL (to match standard upper half)													
	Price (f. o. b. factory—see Note)	Maximum Body and Payload Rating (based on Axle Rating)	Chassis Weight (includes weight of items included in Price.)	Standard		Maximum Size Recommended	Length		Height (in.)	Side-Rail Size and Type	Drop (in.)	Heat-Treated	No. and Type of Cross-Members	Size	Number Leaves	Shackle Type	Helper Springs	Number of Helper Leaves	Radius Rods	Make, Type and Actuation	Drum Diameter and Width	Drum Material	Brake Lining Area	Automatic Emergency	Male	Maximum Rating (lb.)	Beam Section Dimension	Beam Type	Spindle Diameter (at Inner Bearing)	% Body & Payload on Axle	Landing Gear Type and Actuation	Distance: Kingpin to Front of Frame	Make and Type	Width	Price (lower half, upper half)	
				Standard (ft.)	Longest Standard (at Extra Cost)																															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		
TWO-WHEEL AVAILABLE																																				
	650	10000	2650	8.25/20D	34x7D	16	Opt	37 7/8x21 1/2x1 1/4 C	5	N 6C	42x3	42x3	8	S	Y	Y	Y	Y	LHV	16x21 1/2	CI	135	O	Tim	10000	4x1 1/2	Tu	2 1/2	60	HM	Opt	Own-D	30	75		
	745	20000	3100	9.00/20D	36x8D	18	Opt	38 1/2x22 1/2x1 1/2 C	5	N 6C	42x3	42x3	8	S	Y	Y	Y	Y	LHV	16x31 1/2	CI	210	O	Tim	12000	4x1 1/2	Tu	2 1/2	60	HM	Opt	Own-D	30	75		
	950	24000	3650	9.75/20D	36x8D	20	Opt	41 1/2x24 1/2x1 1/2 C	5	N 7C	42x3	42x3	10	S	Y	Y	Y	Y	LHV	17 1/2x4	CI	296	O	Tim	16000	5x1 1/2	Tu	3	60	HM	Opt	Own-D	30	75		

SEMI-TRAILER Specification Table—(Continued)

SEMI-TRAILER MAKE AND MODEL	CHASSIS			TIRE SIZE		FRAME				SPRINGS				BRAKES				AXLE				FIFTH WHEEL (to match standard upper half)													
	Price (f.o.b. factory—see Note)	Maximum Body and Payload Rating (based on Axle Rating)	Chassis Weight (includes weight of items included in Price)	Standard	Maximum Recommended Size	Length	Height (in.)	Side-Rail Size and Type	Drop (in.)	Heat-Treated?	No. and Type of Cross-Members	Size	Number Leaves	Shackle Type	Helper Springs	Number of Helper Leaves	Radius Rods	Make, Type and Actuation	Drum Diameter and Width	Drum Material	Automatic Emergency	Make	Maximum Rating (lb.)	Beam Section Dimension	Beam Type	Spindle Diameter (at Inner Bearing)	% Body & Payload on Axle	Landing Gear Type and Actuation	Distance: Kingpin to Front of Frame	Make and Type	Width	Price (lower half)			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	
TWO-WHEEL—Cont.																																			
HIGHWAY—Continued																																			
117-C	1025	24000	3415	8.25/20D	9.75/20D	18	20	33½	10x3¼x1½C	18	N	4C3J	48x4	12	S	Y	6	Y	BMV	17¼x4	G	288	O	O	O	16000	2½x3½	Re	2½	56	HM	18	Mar-D	30	90
117-D	1165	28000	3920	9.00/20D	10.50/20D	18	20	36	10x3¼x1½C	18	N	4C3J	48x4	15	S	Y	6	Y	BMV	17½x5	G	350	O	O	O	18000	2½x4½	Re	3½	56	HM	18	Mar-D	30	90
127-A	825	16000	2360	7.00/20D	7.50/20D	16	20	32½	9½x3¼x1½C	16	N	6C2J	48x3	9	S	Y	5	Y	BMV	16½x2½	G	176	O	O	O	9000	2x3½	Re	2½	56	HM	15	Mar-D	24	60
127-B	770	20000	2680	7.00/20D	7.50/20D	16	20	32½	9½x3¼x1½C	16	N	6C2J	48x3	11	S	Y	5	Y	BMV	17x3	G	216	O	O	O	12000	2½x3½	Re	2½	56	HM	15	Mar-D	24	60
127-C	1062	24000	3585	8.25/20D	9.75/20D	18	20	33½	10x3¼x1½C	18	N	7C2J	48x4	12	S	Y	6	Y	BMV	17¼x4	G	288	O	O	O	16000	2½x3½	Re	2½	56	HM	18	Mar-D	30	90
127-D	1210	28000	4145	9.00/20D	10.50/20D	18	20	36	10x3¼x1½C	18	N	7C2J	48x4	15	S	Y	6	Y	BMV	17½x5	G	350	O	O	O	18000	2½x4½	Re	3½	56	HM	18	Mar-D	30	90
KINGHAM																																			
H-30	585	18500	2550	32x6D	34x7D	18	30	46	10x1½x2½C	6	N	7C	46x3½	12	S	Y	5	Y	OMV	17½x3	CN	204	Y	O	O	10000	4x1½	Tu	2½	55	HM	16	O	30	60
HD-30	750	22500	2800	32x6D	36x8D	18	30	47	10x1½x2½C	6	N	7C	46x3½	15	S	Y	5	Y	OMV	17½x4	CN	272	Y	O	O	12000	4½x1½	Tu	3	55	HM	16	O	30	80
H-40	945	29300	3200	34x7D	38x9D	20	30	49	10x1½x2½C	6	N	7C	46x3½	15	S	Y	5	Y	OMV	17½x5	CN	340	Y	O	O	16000	5x1½	Tu	3	55	HM	16	O	36	85
MACK																																			
ST-20	880	20000	2450	8.25/20D	9.00/20D	18	24	39	9½x2½x1½C	5	N	7C	54x3	13	R	Y	6	N	OMV	17½x4	CN	242	Y	T	O	10000	4½x1½	Tu	2½	56	SM	15½	ASF-D	30	.....
5-S	1325	26000	3950	9.00/20D	9.75/24D	18	24	42	10½x3½x1½C	6	N	4C3T	52x3½	8	R	Y	5	N	OMV	17½x5	CN	355	Y	O	O	15000	3½x1½	Tu	3½	55	SM	15½	ASF-D	30	.....
6-8SD	1625	24500	4300	9.00/20D	9.75/24D	18	24	42	10½x3½x1½C	6	N	4C3T	52x3½	8	R	Y	5	N	OMV	17½x5	CN	355	Y	O	O	15000	3½x1½	Tu	3½	55	SM	15½	ASF-D	30	.....
8-12S	1800	37000	4700	9.75/20D	11.25/24D	18	24	46	11½x3½x1½C	6	N	4C3T	52x4	9	R	Y	5	N	OMV	17½x6	CN	426	Y	O	O	15000	4½x1½	Tu	3½	55	SM	15½	ASF-D	30	.....
8-12SD	1925	35000	5100	9.75/20D	11.25/24D	18	24	46	10½x3½x1½C	6	N	4C3T	52x4	9	R	Y	5	N	OMV	17½x6	CN	426	Y	O	O	15000	4½x1½	Tu	3½	55	SM	15½	ASF-D	30	.....
MORELAND																																			
110	685	16000	2450	7.50/20D	8.25/20D	18	.....	40	9x3x1½C	8	N	7C	48x3	11	R	Y	5	N	LHV	16x3½	CI	210	Y	Tim	O	10000	4x½	Tu	2½	60	HM	18	Aus-D	27	77.50
112	835	18000	2750	8.00/20D	8.00/20D	18	.....	44	9x3x1½C	8	N	7C	48x3	13	R	Y	5	N	LHV	16x3½	CI	210	Y	Tim	O	12000	4½x½	Tu	2½	60	HM	18	Aus-D	27	77.50
116	1035	23000	3400	8.75/20D	9.75/20D	20	.....	45	9x3x1½C	8	N	7C	48x3½	12	R	Y	5	N	LHV	17½x4	CI	252	Y	Tim	O	16000	5x½	Tu	3	65	HM	18	Aus-D	33	90.00
RELIANCE																																			
26-S	852	15000	1800	32x6D	32x6D	18	26	38	9x3x1½C	6	N	6C	36x3	8	S	N	N	Y	LHV	16x3½	CI	210	O	Tim	O	10000	4x½	Tu	2½	60	HM	15	O	30	75
210-S	947	18000	2000	32x6D	34x7D	20	26	39	9x3x1½C	6	N	6C	36x3	10	S	N	N	Y	LHV	16x3½	CI	210	O	Tim	O	12000	4½x½	Tu	2½	60	HM	15	O	30	75
215-S	1352	21000	2800	9.00/20D	10.50/20D	20	26	41	10½x3½x1½C	6	N	7C	36x3	12	S	N	N	Y	LHV	17½x4	CI	264	O	Tim	O	14000	4½x½	Tu	2½	60	HM	15	O	30	75
Junior	1200	24000	3000	32x6D	34x7D	20	24	38	9x3x1½C	6	N	8C	36x3	8	S	N	N	Y	LHV	16x3½	CI	420	O	Tim	O	10000	4x½	Tu	2½	60	HM	15	O	30	75
412-S	1390	26000	3300	32x6D	34x7D	22	26	38	9x3x1½C	6	N	8C	36x3	8	S	N	N	Y	LHV	16x3½	CI	420	O	Tim	O	10000	4x½	Tu	2½	60	HM	15	O	30	75
518-S	1732	38000	5000	9.00/20D	9.75/20D	24	28	40	9x3x1½C	6	N	10C	36x3	8	S	N	N	Y	TMV	17½x4	CI	528	O	Tim	O	12000	4½x½	Tu	2½	70	HM	15	O	30	100
424-S	2360	44000	6400	9.75/20D	9.75/22D	24	33	43	10½x3½x1½C	6	N	11C	36x3	12	S	N	N	Y	TMV	17½x5½	CI	704	O	Tim	O	14000	4½x½	Tu	2½	70	HM	15	O	30	100
REO																																			
18T	452	16000	2325	6.00/20D	8.25/20D	18	.....	36½	7½x3½x1½C	5	N	8C	54x3	12	B	Y	8	N	LHV	16x2½	AI	149	O	O	O	10000	2½x4	Re	2½	56	HM	12	Mar-D	24	65
REO MARTIN																																			
16T	500	16000	2025	6.00/20D	7.50/20D	16	24	40½	9½x3½x1½C	5	N	4C3J	46x3	9	B	Y	5	Y	LHV	16x2½	G	130	O	O	O	9000	2x3½	Re	2½	56	HM	15	Mar-D	24	65
22T	850	20000	2425	7.00/20D	8.25/20D	16	24	43	9½x3½x1½C	5	N	4C3J	46x3	11	B	Y	5	Y	LHV	16x3½	G	202	O	O	O	12000	2½x3½	Re	2½	56	HM	15	Mar-D	24	65
25T	845	20000	3300	7.00/20D	9.75/20D	18	24	46½	10x3½x1½C	5	N	4C3J	46x4	12	B	Y	6	Y	LHV	17½x4	G	238	O	O	O	16000	2½x3½	Re	2½	56	HM	15	Mar-D	30	112
35T	1115	28000	3950	9.00/20D	10.50/20D	18	24	48½	12x3½x1½C	5	N	4C3J	46x4	15	B	Y	6	Y	LHV	17½x5	G	338	O	O	O	18000	2½x4½	Re	3½	56	HM	18	Mar-D	30	112
SPENCER																																			
J-2000	690	17000	2350	32x6-10D	34x7D	16	24	37	9½x3x1½C	5	N	6C	52x3	10	S	N	N	Y	BMV	17½x3	AI	223	Y	O	O	10000	2½x5	IB	2½	54	HM	18	O	30	75
J-2005	805	19000	2820	34x7D	8.00/20D	16	24	38	9½x3x1½C	5	N	6C	52x3	12	S	N	N	Y	BMV	17½x4	AI	257	Y	O	O	12000	3x5½	IB	3	54	HM	18	O	30	75
J-2010	920	21000	3380	36x7D	8.75/20D	16	24	41	9½x3x1½C	5	N	6C	52x4	15	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	16000	3x6½	IB	3	54	HM	18	O	30	75
T-205	1250	25000	3680	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y	O	O	18000	3x6½	IB	3½	54	HM	18	O	30	75
T-206	1260	25000	3690	10.50/20D	10.50/24D	18	24	43	9½x3x1½C	5	N	6C	52x4	16	S	N	N	Y	BMV	17½x5	AI	372	Y												

Two-wheel—Continued

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35				
TRUCK ENGINEERING	25F.....	610	16000	2200	7.00/20D	8.25/20D	16	22	38	8x21x1 1/2 C	5	N 7C	45x21 1/2	12	B	Y	8	O	TMV	18x31 1/2	CI	236	O	Tim	10000	4x1 1/2	Tu	25 1/2	4x1 1/2	25 1/2	57	HM	15	Own-D	28	75			
	35F.....	810	20000	2800	7.50/20D	9.00/20D	16	24	40	10x21x1 1/2 C	5	N 7C	48x3	12	B	Y	8	O	TMV	17 1/2 x 3 1/2	CI	294	O	Tim	12000	4x1 1/2	Tu	25 1/2	4x1 1/2	25 1/2	57	HM	15	Own-D	28	75			
	45F.....	1080	25000	3500	8.00/20D	9.75/20D	18	28	42	10x21x1 1/2 C	5	N 7C	50x3	14	B	Y	8	O	TMV	17 1/2 x 3 1/2	CI	294	O	Tim	16000	5x1 1/2	Tu	3 1/2	5x1 1/2	25 1/2	58	HM	15	Own-D	33	100			
	55F.....	1295	25000	4000	8.75/20D	11.25/20D	18	28	43	10x21x1 1/2 C	5	N 7C	50x3	16	B	Y	8	O	TMV	17 1/2 x 3 1/2	CI	355	O	Tim	18000	5x1 1/2	Tu	3 1/2	5x1 1/2	25 1/2	58	HM	15	Own-D	33	100			
UTILITY	SW2.....	635	12000	2060	30x5D	32x6D	16	18	35	6x4 I	7	N 5C	40x3	9	Bs	O	O	O	OMV	18x31 1/2	CN	210	O	Own	10000	2 1/2 x 3 1/2	Re	25 1/2	2 1/2 x 3 1/2	25 1/2	60	HM	30	Own	24	50			
	SW3.....	768	16000	2360	32x6D	34x7D	18	20	38	8x4 I	5	N 6C	40x3	10	Bs	O	O	O	OMV	18x31 1/2	CN	210	O	Own	12000	2 1/2 x 3 1/2	Re	25 1/2	2 1/2 x 3 1/2	25 1/2	60	HM	30	Own	24	50			
	SW4.....	1015	20000	2800	8.25/20D	9.00/20D	20	22	43	10x4 I	5	N 7C	40x3	11	Bs	O	O	O	OMV	17x4	CN	284	O	Own	14000	2 1/2 x 3 1/2	Re	25 1/2	2 1/2 x 3 1/2	25 1/2	60	HM	30	Own	30	50			
	SW6.....	1154	24000	3200	9.00/20D	9.75/22D	20	20	43	10x4 I	5	N 7C	40x3	12	Bs	O	O	O	OMV	17x4	CN	284	O	Own	16000	2 1/2 x 3 1/2	Re	25 1/2	2 1/2 x 3 1/2	25 1/2	60	HM	30	Own	24	100			
FOUR-WHEEL																																							

*—Four springs †—Data being compiled
ABBREVIATIONS:
 N—No O—Optional Y—Yes B—Box Girder C—Channel
COLUMN 10 J—Jaw
COLUMN 11 I—Beam
COLUMN 12 T—Timken
COLUMN 13 O—Own
COLUMN 14 Types: H—Hydraulic M—Mechanical
COLUMN 15 Actuation: V—Vacuum
COLUMN 16 B—Bushed R—Rubber block
COLUMN 17 S—Sliding
COLUMN 18 Makes: B—Bendix L—Lockheed
COLUMN 19 AI—Alloy iron CI—Cast iron
COLUMN 20 CS—Cast steel
COLUMN 21 CN—Chrome-Nickel-iron
COLUMN 22 G—Gumite NI—Nickel iron
COLUMN 23 CI—Clark
COLUMN 24 Tim—Timken
COLUMN 25 IB—L-Beam Re—Rectangular
COLUMN 26 Tu—Tubular
COLUMN 27 H—Manual S—Semi-automatic
COLUMN 28 M—Mechanical
COLUMN 29 ASF—American Steel Foundry
COLUMN 30 Aus—Austin Day—Dayton
COLUMN 31 Mar—Martin D—Detachable
COLUMN 32 Own—Own P—Permanent
COLUMN 33 SE—Standard Equipment, no extra charge

Notes:

Column 2 gives the price of the chassis, f.o.b. factory. The price includes the following: standard length chassis; standard tires; power brakes; landing gear; tail and stop light; upper half of fifth wheel, and brake and electrical

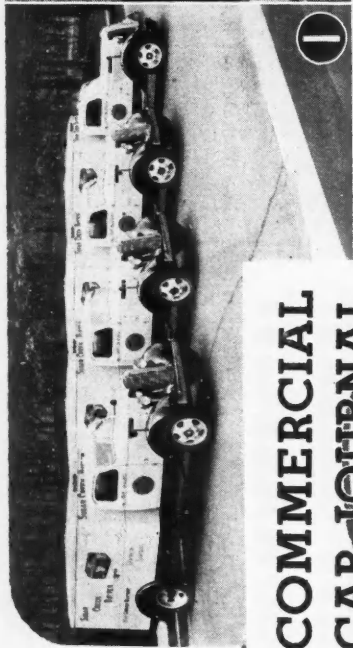
connections and fittings that are considered part of the trailer's equipment.
 Column 3. The maximum body and payload rating of the semi-trailer is based on the axle rating in Column 26.
 Column 4. Weight of complete chassis includes weight

of items included in price in Column 2.
 Column 8 gives the longest frame length available as a standard option at extra cost. Special lengths longer than the longest standard length are available also at extra cost.

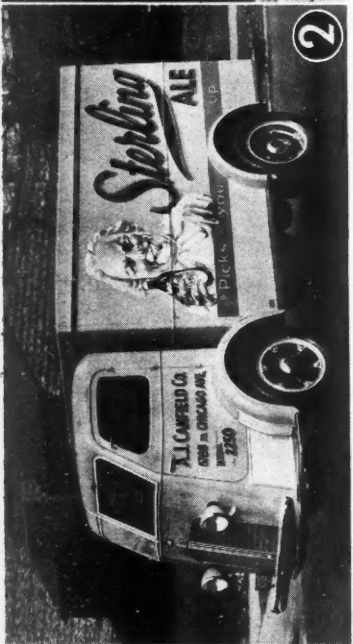
Column 9. Frame height is the distance from the ground to top of frame over the rear axle with standard size tires, loaded.
 Column 35. The price of the fifth wheel, lower half, is f.o.b. factory. It does not include mounting.

Tractors-semi-trailers illustrated are those of (left to right) Ford-Highway; IHC-Leader; Chevrolet-Gramm and Ree model 2D4M with trailer





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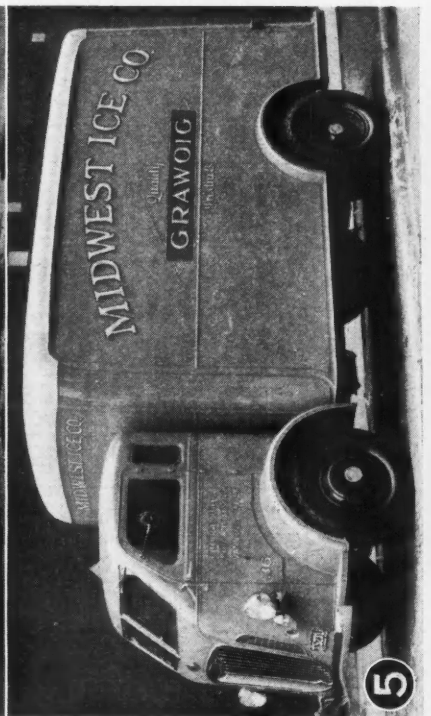
Truck Specifications TABLE

Data for This Table Are Supplied Monthly by Manufacturers

GENERAL

Make and Model—Only basic models are listed. Variations are available with most manufacturers.
Tonnage Rating—Where a spread of ratings is given, the middle rating is for ideal operating conditions and the minimum for extremely difficult conditions; the ranges between are for varying operating conditions.
Prices—Prices are quoted in dollars and cents, and are applied to standard wheelbase, with standard tires. All prices are F.O.B. factory.

Prices ready next issue.
Chassis—The chassis is chassis weight stripped, plus body and weight, plus payload. Gross vehicle weight is based on maximum recommended tire size, not on tires listed as standard.
Chassis Weight Stripped—Is weight of standard chassis with standard equipment, with crankcase and cooling system full, and 5 gal. of gasoline in tank. Excess weight of cab.
Maximum Tire Size—Is furnished at extra cost, if the maximum differs from the standard tire size. Dual rear wheels are standard except where otherwise noted.
Maximum Brake H.P.—at Given R.P.M.—Is actual dynamometer reading without accessories.
Gear Ratios—High—Ratios within the range given are available at no extra cost. Exceptions are noted.
Tractors—Unless given the designation N (meaning not available as tractor), all tractors may be assumed to be available as tractors.
(D)—Diesel equipped.
(N)—Not available as tractor.
(T)—Specifically designed for tractor use only.
Cab-over-engine design.
e.s.s.—Engine-between-seat design.
(2) General Motors—Tire size indicated in maximum tire size column is standard tire size during tires recommended for normal operating conditions. T-16L and F-16L, 3-1 ton, same as T-16 and F-16 respectively, except as noted.



mental, Hercules, Waukegan and Lycoming engines at the buyer's option.
(12) Hendrickson—All models available in standard design for slight additional charge.
(13) Chevrolet—For export—a maximum gross vehicle weight of 12,000 lbs is allowed where 32x8-10 ply dual rear wheels are used. Maximum controlled speed not to exceed 45 miles per hour are used.
(14) Mack—Prices available only upon application. Weights in Chassis Weight column are shipping weights which include standard wheelbase, cab, prevailing tire size and spare tire, ready for the road.
(15) Mack—Cab now included in list price.
(b) Sterling—Available with Diesel engine.
(c) Sterling—Available with Hesselman engine.
(16) Ford—Retail list price at Detroit, includes: Front Bumper with two bumper guards, five wheels, two 6.00/20 tires, 60 H.P. Ford V-8 engine, wheel carrier, also governor on 60 H.P. engine only.
(17) Ford—Retail list price at Detroit, includes: Front and Rear Bumpers, five 6.00/20 tires, spare wheel carrier and spare tire lock.

MAKES—ALL

A LaF—American La France.
B—Bendix.
Bu or Bud—Budd, Own rear.
Cat—Caterpillar.
Co—Covet.
Cum—Cummins.
Ha S—Hall Seitz.
Her—Hercules.
L—Lockheed.
LW—Lockheed front, Wisconsin rear.
O or O—Own.
Op or Opt—Optional.
Shu—Shuler.

4—Four wheels.
J—Jackshaft.
T—Tapered front and rear.
F—Furnace.
D—Diesel.
P—Propeller shaft.

Type

D—Tru-Stop disk.
I—Internal.
X—External.

BRAKE DRUMS

Material

A—Cast alloy iron.
A—American Car Ferry.
D—Ductile iron.
E—Enamelled.
F—Furnace iron.
G—Gunite.
N—Nitrile.
P—Pressed steel.
P—Pressed steel.
P—Pressed steel.
(When a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

I—T—Beam.
C—Channel.
T—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear.
D—Drop center.
T—Tapered front.
X—X—Braced.

(Continued on Next Page)

† Rear 32 x 6. ** Rear 32 x 7. †† Rear 32 x 8-10 ply.									
80 Day-Elder	76 1 1/2	990 135 168 10000	3900 6.00/2013	7.00/20	Her JXA	6-3 1/2 x 4 1/2	228 4 1/2	58 2500	7-3 1/2 x 10 1/2
81	76 1 1/2	1295 156 186 11200	4100 6.00/2013	7.50/20	Her JXC	6-3 1/2 x 4 1/2	233 4 1/2	73 2800	7-3 1/2 x 10 1/2
82	76 1 1/2	1510 177 207 12400	4300 6.00/2013	8.00/20	Her JXD	6-3 1/2 x 4 1/2	238 4 1/2	88 3000	7-3 1/2 x 10 1/2
83	76 1 1/2	1725 198 228 13600	4500 6.00/2013	8.50/20	Her JXE	6-3 1/2 x 4 1/2	243 4 1/2	103 3200	7-3 1/2 x 10 1/2
84	76 1 1/2	1940 219 249 14800	4700 6.00/2013	9.00/20	Her JXF	6-3 1/2 x 4 1/2	248 4 1/2	118 3400	7-3 1/2 x 10 1/2
85	76 1 1/2	2155 240 270 16000	4900 6.00/2013	9.50/20	Her JXG	6-3 1/2 x 4 1/2	253 4 1/2	133 3600	7-3 1/2 x 10 1/2
86	76 1 1/2	2370 261 291 17200	5100 6.00/2013	10.00/20	Her JXH	6-3 1/2 x 4 1/2	258 4 1/2	148 3800	7-3 1/2 x 10 1/2
87	76 1 1/2	2585 282 312 18400	5300 6.00/2013	10.50/20	Her JXI	6-3 1/2 x 4 1/2	263 4 1/2	163 4000	7-3 1/2 x 10 1/2
88	76 1 1/2	2800 303 333 19600	5500 6.00/2013	11.00/20	Her JXJ	6-3 1/2 x 4 1/2	268 4 1/2	178 4200	7-3 1/2 x 10 1/2
89	76 1 1/2	3015 324 354 20800	5700 6.00/2013	11.50/20	Her JXK	6-3 1/2 x 4 1/2	273 4 1/2	193 4400	7-3 1/2 x 10 1/2
90	76 1 1/2	3230 345 375 22000	5900 6.00/2013	12.00/20	Her JXL	6-3 1/2 x 4 1/2	278 4 1/2	208 4600	7-3 1/2 x 10 1/2
91	76 1 1/2	3445 366 396 23200	6100 6.00/2013	12.50/20	Her JXM	6-3 1/2 x 4 1/2	283 4 1/2	223 4800	7-3 1/2 x 10 1/2
92	76 1 1/2	3660 387 417 24400	6300 6.00/2013	13.00/20	Her JXN	6-3 1/2 x 4 1/2	288 4 1/2	238 5000	7-3 1/2 x 10 1/2
93	76 1 1/2	3875 408 438 25600	6500 6.00/2013	13.50/20	Her JXO	6-3 1/2 x 4 1/2	293 4 1/2	253 5200	7-3 1/2 x 10 1/2
94	76 1 1/2	4090 429 459 26800	6700 6.00/2013	14.00/20	Her JXP	6-3 1/2 x 4 1/2	298 4 1/2	268 5400	7-3 1/2 x 10 1/2
95	76 1 1/2	4305 450 480 28000	6900 6.00/2013	14.50/20	Her JXQ	6-3 1/2 x 4 1/2	303 4 1/2	283 5600	7-3 1/2 x 10 1/2
96	76 1 1/2	4520 471 501 29200	7100 6.00/2013	15.00/20	Her JXR	6-3 1/2 x 4 1/2	308 4 1/2	298 5800	7-3 1/2 x 10 1/2
97	76 1 1/2	4735 492 522 30400	7300 6.00/2013	15.50/20	Her JXS	6-3 1/2 x 4 1/2	313 4 1/2	313 6000	7-3 1/2 x 10 1/2
98	76 1 1/2	4950 513 543 31600	7500 6.00/2013	16.00/20	Her JXT	6-3 1/2 x 4 1/2	318 4 1/2	328 6200	7-3 1/2 x 10 1/2
99	76 1 1/2	5165 534 564 32800	7700 6.00/2013	16.50/20	Her JXU	6-3 1/2 x 4 1/2	323 4 1/2	343 6400	7-3 1/2 x 10 1/2
100	76 1 1/2	5380 555 585 34000	7900 6.00/2013	17.00/20	Her JXV	6-3 1/2 x 4 1/2	328 4 1/2	358 6600	7-3 1/2 x 10 1/2
101	76 1 1/2	5595 576 606 35200	8100 6.00/2013	17.50/20	Her JXW	6-3 1/2 x 4 1/2	333 4 1/2	373 6800	7-3 1/2 x 10 1/2
102	76 1 1/2	5810 597 627 36400	8300 6.00/2013	18.00/20	Her JXZ	6-3 1/2 x 4 1/2	338 4 1/2	388 7000	7-3 1/2 x 10 1/2
103	76 1 1/2	6025 618 648 37600	8500 6.00/2013	18.50/20	Her JYA	6-3 1/2 x 4 1/2	343 4 1/2	403 7200	7-3 1/2 x 10 1/2
104	76 1 1/2	6240 639 669 38800	8700 6.00/2013	19.00/20	Her JYB	6-3 1/2 x 4 1/2	348 4 1/2	418 7400	7-3 1/2 x 10 1/2
105	76 1 1/2	6455 660 690 40000	8900 6.00/2013	19.50/20	Her JYC	6-3 1/2 x 4 1/2	353 4 1/2	433 7600	7-3 1/2 x 10 1/2
106	76 1 1/2	6670 681 711 41200	9100 6.00/2013	20.00/20	Her JYD	6-3 1/2 x 4 1/2	358 4 1/2	448 7800	7-3 1/2 x 10 1/2
107	76 1 1/2	6885 702 732 42400	9300 6.00/2013	20.50/20	Her JYE	6-3 1/2 x 4 1/2	363 4 1/2	463 8000	7-3 1/2 x 10 1/2
108	76 1 1/2	7100 723 753 43600	9500 6.00/2013	21.00/20	Her JYF	6-3 1/2 x 4 1/2	368 4 1/2	478 8200	7-3 1/2 x 10 1/2
109	76 1 1/2	7315 744 774 44800	9700 6.00/2013	21.50/20	Her JYG	6-3 1/2 x 4 1/2	373 4 1/2	493 8400	7-3 1/2 x 10 1/2
110	76 1 1/2	7530 765 795 46000	9900 6.00/2013	22.00/20	Her JYH	6-3 1/2 x 4 1/2	378 4 1/2	508 8600	7-3 1/2 x 10 1/2
111	76 1 1/2	7745 786 816 47200	10100 6.00/2013	22.50/20	Her JYI	6-3 1/2 x 4 1/2	383 4 1/2	523 8800	7-3 1/2 x 10 1/2
112	76 1 1/2	7960 807 837 48400	10300 6.00/2013	23.00/20	Her JYJ	6-3 1/2 x 4 1/2	388 4 1/2	538 9000	7-3 1/2 x 10 1/2
113	76 1 1/2	8175 828 858 49600	10500 6.00/2013	23.50/20	Her JYK	6-3 1/2 x 4 1/2	393 4 1/2	553 9200	7-3 1/2 x 10 1/2
114	76 1 1/2	8390 849 879 50800	10700 6.00/2013	24.00/20	Her JYL	6-3 1/2 x 4 1/2	398 4 1/2	568 9400	7-3 1/2 x 10 1/2
115	76 1 1/2	8605 870 900 52000	10900 6.00/2013	24.50/20	Her JYM	6-3 1/2 x 4 1/2	403 4 1/2	583 9600	7-3 1/2 x 10 1/2
116	76 1 1/2	8820 891 921 53200	11100 6.00/2013	25.00/20	Her JYN	6-3 1/2 x 4 1/2	408 4 1/2	598 9800	7-3 1/2 x 10 1/2
117	76 1 1/2	9035 912 942 54400	11300 6.00/2013	25.50/20	Her JYO	6-3 1/2 x 4 1/2	413 4 1/2	613 10000	7-3 1/2 x 10 1/2
118	76 1 1/2	9250 933 963 55600	11500 6.00/2013	26.00/20	Her JYP	6-3 1/2 x 4 1/2	418 4 1/2	628 10200	7-3 1/2 x 10 1/2
119	76 1 1/2	9465 954 984 56800	11700 6.00/2013	26.50/20	Her JYQ	6-3 1/2 x 4 1/2	423 4 1/2	643 10400	7-3 1/2 x 10 1/2
120	76 1 1/2	9680 975 1005 58000	11900 6.00/2013	27.00/20	Her JYR	6-3 1/2 x 4 1/2	428 4 1/2	658 10600	7-3 1/2 x 10 1/2
121	76 1 1/2	9895 996 1026 59200	12100 6.00/2013	27.50/20	Her JYS	6-3 1/2 x 4 1/2	433 4 1/2	673 10800	7-3 1/2 x 10 1/2
122	76 1 1/2	10110 1017 1047 60400	12300 6.00/2013	28.00/20	Her JYT	6-3 1/2 x 4 1/2	438 4 1/2	688 11000	7-3 1/2 x 10 1/2
123	76 1 1/2	10325 1038 1068 61600	12500 6.00/2013	28.50/20	Her JYU	6-3 1/2 x 4 1/2	443 4 1/2	703 11200	7-3 1/2 x 10 1/2
124	76 1 1/2	10540 1059 1089 62800	12700 6.00/2013	29.00/20	Her JYV	6-3 1/2 x 4 1/2	448 4 1/2	718 11400	7-3 1/2 x 10 1/2
125	76 1 1/2	10755 1080 1110 64000	12900 6.00/2013	29.50/20	Her JYW	6-3 1/2 x 4 1/2	453 4 1/2	733 11600	7-3 1/2 x 10 1/2
126	76 1 1/2	10970 1101 1131 65200	13100 6.00/2013	30.00/20	Her JYX	6-3 1/2 x 4 1/2	458 4 1/2	748 11800	7-3 1/2 x 10 1/2
127	76 1 1/2	11185 1122 1152 66400	13300 6.00/2013	30.50/20	Her JYY	6-3 1/2 x 4 1/2	463 4 1/2	763 12000	7-3 1/2 x 10 1/2
128	76 1 1/2	11400 1143 1173 67600	13500 6.00/2013	31.00/20	Her JYZ	6-3 1/2 x 4 1/2	468 4 1/2	778 12200	7-3 1/2 x 10 1/2
129	76 1 1/2	11615 1164 1194 68800	13700 6.00/2013	31.50/20	Her JZA	6-3 1/2 x 4 1/2	473 4 1/2	793 12400	7-3 1/2 x 10 1/2
130	76 1 1/2	11830 1185 1215 70000	13900 6.00/2013	32.00/20	Her JZB	6-3 1/2 x 4 1/2	478 4 1/2	808 12600	7-3 1/2 x 10 1/2
131	76 1 1/2	12045 1206 1236 71200	14100 6.00/2013	32.50/20	Her JZC	6-3 1/2 x 4 1/2	483 4 1/2	823 12800	7-3 1/2 x 10 1/2
132	76 1 1/2	12260 1227 1257 72400	14300 6.00/2013	33.00/20	Her JZD	6-3 1/2 x 4 1/2	488 4 1/2	838 13000	7-3 1/2 x 10 1/2
133	76 1 1/2	12475 1248 1278 73600	14500 6.00/2013	33.50/20	Her JZE	6-3 1/2 x 4 1/2	493 4 1/2	853 13200	7-3 1/2 x 10 1/2
134	76 1 1/2	12690 1269 1299 74800	14700 6.00/2013	34.00/20	Her JZF	6-3 1/2 x 4 1/2	498 4 1/2	868 13400	7-3 1/2 x 10 1/2
135	76 1 1/2	12905 1290 1320 76000	14900 6.00/2013	34.50/20	Her JZG	6-3 1/2 x 4 1/2	503 4 1/2	883 13600	7-3 1/2 x 10 1/2
136	76 1 1/2	13120 1311 1341 77200	15100 6.00/2013	35.00/20	Her JZH	6-3 1/2 x 4 1/2	508 4 1/2	898 13800	7-3 1/2 x 10 1/2
137	76 1 1/2	13335 1332 1362 78400	15300 6.00/2013	35.50/20	Her JZI	6-3 1/2 x 4 1/2	513 4 1/2	913 14000	7-3 1/2 x 10 1/2
138	76 1 1/2	13550 1353 1383 79600	15500 6.00/2013	36.00/20	Her JZJ	6-3 1/2 x 4 1/2	518 4 1/2	928 14200	7-3 1/2 x 10 1/2
139	76 1 1/2	13765 1374 1404 80800	15700 6.00/2013	36.50/20	Her JZK	6-3 1/2 x 4 1/2	523 4 1/2	943 14400	7-3 1/2 x 10 1/2
140	76 1 1/2	13980 1395 1425 82000	15900 6.00/2013	37.00/20	Her JZL	6-3 1/2 x 4 1/2	528 4 1/2	958 14600	7-3 1/2 x 10 1/2
141	76 1 1/2	14195 1416 1446 83200	16100 6.00/2013	37.50/20	Her JZM	6-3 1/2 x 4 1/2	533 4 1/2	973 14800	7-3 1/2 x 10 1/2
142	76 1 1/2	14410 1437 1467 84400	16300 6.00/2013	38.00/20	Her JZN	6-3 1/2 x 4 1/2	538 4 1/2	988 15000	7-3 1/2 x 10 1/2
143	76 1 1/2	14625 1458 1488 85600	16500 6.00/2013	38.50/20	Her JZO	6-3 1/2 x 4 1/2	543 4 1/2	1003 15200	7-3 1/2 x 10 1/2
144	76 1 1/2	14840 1479 1509 86800	16700 6.00/2013	39.00/20	Her JZP	6-3 1/2 x 4 1/2	548 4 1/2	1018 15400	7-3 1/2 x 10 1/2
145	76 1 1/2	15055 1500 1530 88000	16900 6.00/2013	39.50/20	Her JZQ	6-3 1/2 x 4 1/2	553 4 1/2	1033 15600	7-3 1/2 x 10 1/2
146	76 1 1/2	15270 1521 1551 89200	17100 6.00/2013	40.00/20	Her JZR	6-3 1/2 x 4 1/2	558 4 1/2	1048 15800	7-3 1/2 x 10 1/2
147	76 1 1/2	15485 1542 1572 90400	17300 6.00/2013	40.50/20	Her JZS	6-3 1/2 x 4 1/2	563 4 1/2	1063 16000	7-3 1/2 x 10 1/2
148	76 1 1/2	15700 1563 1593 91600	17500 6.00/2013	41.00/20	Her JZT	6-3 1/2 x 4 1/2	568 4 1/2	1078 16200	7-3 1/2 x 10 1/2
149	76 1 1/2	15915 1584 1614 92800	17700 6.00/2013	41.50/20	Her JZU	6-3 1/2 x 4 1/2	573 4 1/2	1093 16400	7-3 1/2 x 10 1/2
150	76 1 1/2	16130 1605 1635 94000	17900 6.00/2013	42.00/20	Her JZV	6-3 1/2 x 4 1/2	578 4 1/2	1108 16600	7-3 1/2 x 10 1/2
151	76 1 1/2	16345 1626 1656 95200	18100 6.00/2013	42.50/20	Her JZW	6-3 1/2 x 4 1/2	583 4 1/2	1123 16800	7-3 1/2 x 10 1/2
152	76 1 1/2	16560 1647 1677 96400	18300 6.00/2013	43.00/20	Her JZX	6-3 1/2 x 4 1/2	588 4 1/2	1138 17000	7-3 1/2 x 10 1/2
153	76 1 1/2	16775 1668 1698 97600	18500 6.00/2013	43.50/20	Her JZY	6-3 1/2 x 4 1/2	593 4 1/2	1153 17200	7-3 1/2 x 10 1/2
154	76 1 1/2	16990 1689 1719 98800	18700 6.00/2013	44.00/20	Her JZZ	6-3 1/2 x 4 1/2	598 4 1/2	1168 17400	7-3 1/2 x 10 1/2
155	76 1 1/2	17205 1710 1740 100000	18900 6.00/2013	44.50/20	Her JAA	6-3 1/2 x 4 1/2	603 4 1/2	1183 17600	7-3 1/2 x 10 1/2
156	76 1 1/2	17420 1731 1761 101200	19100 6.00/2013	45.00/20	Her JAB	6-3 1/2 x 4 1/2	608 4 1/2	1198 17800	7-3 1/2 x 10 1/2
157	76 1 1/2	17635 1752 1782 102400	19300 6.00/2013	45.50/20	Her JAC	6-3 1/2 x 4 1/2	613 4 1/2		

Line Number	MAKE AND MODEL	GENERAL (See Keynote)			TIRE SIZES		ENGINE DETAILS					TRANSMISSION		REAR AXLE		FRONT AXLE	BRAKES			FRAME									
		Rating	Chassis Price	Standard Wheelbase	Chassis Weight	Front and Rear	Dual rear S-angle rear	Model	No. of Cylinders	Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M.	Number and Diameter of Main Bearings	Governor Standard	Make and Model	Forward Spd's	Make and Model	Clear and Type	Clear Ratio	Clear Range in High	Make and Model	Make Location	Service	Hand Location	C-A Dimension (Std. W.B.)	Side Rail Dimensions	Type
1	Gen. Mot. T-14	1-1/2	395	112 126	2115	6.00/16S	7.00/15S	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
2	Gen. Mot. T-16	1-3/4	525	131 157	3085	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
3	Gen. Mot. T-18	2	690	136 178	3415	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
4	Gen. Mot. T-18H	2	965	136 178	4157	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
5	Gen. Mot. T-20	2-1/2	1310	136 196	4575	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
6	Gen. Mot. T-22	3	1540	136 196	5220	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
7	Gen. Mot. T-24	3-1/2	1755	136 196	5755	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
8	Gen. Mot. T-26	4	2155	136 196	6175	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
9	Gen. Mot. T-28	4-1/2	2455	136 196	6715	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
10	Gen. Mot. T-30	5	2955	136 196	7890	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
11	Gen. Mot. T-32	5-1/2	3255	136 196	8470	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
12	Gen. Mot. T-34	6	3755	136 196	9275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
13	Gen. Mot. T-36	6-1/2	4255	136 196	10075	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
14	Gen. Mot. T-38	7	4755	136 196	10875	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
15	Gen. Mot. T-40	7-1/2	5255	136 196	11675	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
16	Gen. Mot. T-42	8	5755	136 196	12475	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
17	Gen. Mot. T-44	8-1/2	6255	136 196	13275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
18	Gen. Mot. T-46	9	6755	136 196	14075	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
19	Gen. Mot. T-48	9-1/2	7255	136 196	14875	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
20	Gen. Mot. T-50	10	7755	136 196	15675	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
21	Gen. Mot. T-52	10-1/2	8255	136 196	16475	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
22	Gen. Mot. T-54	11	8755	136 196	17275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
23	Gen. Mot. T-56	11-1/2	9255	136 196	18075	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
24	Gen. Mot. T-58	12	9755	136 196	18875	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
25	Gen. Mot. T-60	12-1/2	10255	136 196	19675	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
26	Gen. Mot. T-62	13	10755	136 196	20475	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
27	Gen. Mot. T-64	13-1/2	11255	136 196	21275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
28	Gen. Mot. T-66	14	11755	136 196	22075	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
29	Gen. Mot. T-68	14-1/2	12255	136 196	22875	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
30	Gen. Mot. T-70	15	12755	136 196	23675	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
31	Gen. Mot. T-72	15-1/2	13255	136 196	24475	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
32	Gen. Mot. T-74	16	13755	136 196	25275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
33	Gen. Mot. T-76	16-1/2	14255	136 196	26075	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
34	Gen. Mot. T-78	17	14755	136 196	26875	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
35	Gen. Mot. T-80	17-1/2	15255	136 196	27675	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
36	Gen. Mot. T-82	18	15755	136 196	28475	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
37	Gen. Mot. T-84	18-1/2	16255	136 196	29275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
38	Gen. Mot. T-86	19	16755	136 196	30075	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
39	Gen. Mot. T-88	19-1/2	17255	136 196	30875	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
40	Gen. Mot. T-90	20	17755	136 196	31675	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
41	Gen. Mot. T-92	20-1/2	18255	136 196	32475	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11	Ow 230	Ow 230	163	242	21	53 1/2 x 2 1/2	C
42	Gen. Mot. T-94	21	18755	136 196	33275	6.00/20S	7.50/20	Ow 230	6-3	4 1/2	230	6.2	172	86-3500	4-2 1/2	N	Ow 230	3	Ow 230	SF	U	11							

[illegible]

[illegible]

	1990-2000	2000-2010	2010-2018	1990-2018	1990-2018
1681	0.000	0.000	0.000	0.000	0.000
1682	0.000	0.000	0.000	0.000	0.000
1683	0.000	0.000	0.000	0.000	0.000
1684	0.000	0.000	0.000	0.000	0.000
1685	0.000	0.000	0.000	0.000	0.000
1686	0.000	0.000	0.000	0.000	0.000
1687	0.000	0.000	0.000	0.000	0.000
1688	0.000	0.000	0.000	0.000	0.000
1689	0.000	0.000	0.000	0.000	0.000
1690	0.000	0.000	0.000	0.000	0.000
1691	0.000	0.000	0.000	0.000	0.000
1692	0.000	0.000	0.000	0.000	0.000
1693	0.000	0.000	0.000	0.000	0.000
1694	0.000	0.000	0.000	0.000	0.000
1695	0.000	0.000	0.000	0.000	0.000
1696	0.000	0.000	0.000	0.000	0.000
1697	0.000	0.000	0.000	0.000	0.000
1698	0.000	0.000	0.000	0.000	0.000
1699	0.000	0.000	0.000	0.000	0.000
1700	0.000	0.000	0.000	0.000	0.000
1701	0.000	0.000	0.000	0.000	0.000
1702	0.000	0.000	0.000	0.000	0.000
1703	0.000	0.000	0.000	0.000	0.000
1704	0.000	0.000	0.000	0.000	0.000
1705	0.000	0.000	0.000	0.000	0.000
1706	0.000	0.000	0.000	0.000	0.000
1707	0.000	0.000	0.000	0.000	0.000
1708	0.000	0.000	0.000	0.000	0.000
1709	0.000	0.000	0.000	0.000	0.000
1710	0.000	0.000	0.000	0.000	0.000
1711	0.000	0.000	0.000	0.000	0.000
1712	0.000	0.000	0.000	0.000	0.000
1713	0.000	0.000	0.000	0.000	0.000
1714	0.000	0.000	0.000	0.000	0.000
1715	0.000	0.000	0.000	0.000	0.000
1716	0.000	0.000	0.000	0.000	0.000
1717	0.000	0.000	0.000	0.000	0.000
1718	0.000	0.000	0.000	0.000	0.000
1719	0.000	0.000	0.000	0.000	0.000
1720	0.000	0.000	0.000	0.000	0.000
1721	0.000	0.000	0.000	0.000	0.000
1722	0.000	0.000	0.000	0.000	0.000
1723	0.000	0.000	0.000	0.000	0.000
1724	0.000	0.000	0.000	0.000	0.000
1725	0.000	0.000	0.000	0.000	0.000
1726	0.000	0.000	0.000	0.000	0.000
1727	0.000	0.000	0.000	0.000	0.000
1728	0.000	0.000	0.000	0.000	0.000
1729	0.000	0.000	0.000	0.000	0.000
1730	0.000	0.000	0.000	0.000	0.000
1731	0.000	0.000	0.000	0.000	0.000
1732	0.000	0.000	0.000	0.000	0.000
1733	0.000	0.000	0.000	0.000	0.000
1734	0.000	0.000	0.000	0.000	0.000
1735	0.000	0.000	0.000	0.000	0.000
1736	0.000	0.000			

Four-Wheel-Drive

†† Rear 32 x 6. †† Rear 7.50/20.

* Rear 8.25/20.

(1) **Terreplane**—"Rea

...ready to run." Delivered

at Detroit price. Includ

des all Federal taxes bu

it does not include any

state and/or local taxes.

† Denotes New Model

Models or Change in Speed

Conclusions.

Line Number	MAKE MODEL	GENERAL (See Keynote)			TIRE SIZES		ENGINE DETAILS				TRANS-MISSION		REAR AXLE			FRONT AXLE	BRAKES				C-A Dimensions (Std. W. B.)	FRAME																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
		Tonnage Rating	Chassis Price	Standard Wheelbase	Gross Vehicle Weight with Max. W.B. Furnished	Chassis Wt. (Stripped)	Dual rear S-Engine	Standard Front and Rear	Maximum Tire Size	Furnished	No. of Cylinders	Stroke	Displacement	Comp. Ratio	Torque lb. ft.		Max. Brake H.P. at R.P.M.	Number, Diameter and Length	Governor Standard	Make and Model			Forward Spd's	Make and Model	Gear and Type	Drive & Torque	Gear Range in High	Gear Ratio																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Four-Wheel-Drive (Continued)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
1	Coleman.....	E53 2 1/4	3800	130	144	12800	7000	9.00/24	9.00/24	Bud K203	6-4	4.4	3.8	9.0	102-2600	7-3 1/2 x 11 1/2	Y	Fu BL 16	4 Ws CR15	2F	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws CR15	4 Ws 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† Denotes New Models or Change in Specifications.

Line Number	GENERAL (See Keynote)				TIRE SIZES				ENGINE DETAILS							TRANS-MISSION		REAR AXLE			FRONT AXLE	BRAKES				FRAME																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	MAKE AND MODEL	Tonnage Rating	Channels Price	Standard Wheelbase	Gross Vehicle Weight With Max. W.B. Furnished	Chassis W. Max. Tires	D-dual rear S-single rear		(Stripped)	Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Number, Diameter and Length	Governor Standard	Make and Model	Gear and Type	Drive & Torque		Gear Ratio	Range in High	Make and Model	SERVICE			C-A Dimensions (Std. W. B.)	Side Rail Dimensions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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1	International (Com D) C55F 4R 3 1/4-7	4950	170	224	36700	10170	9.00/20D	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	9.75/20	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Denotes New Models or Change in Specifications.

TRUCK Clutch

SPECIFICATIONS



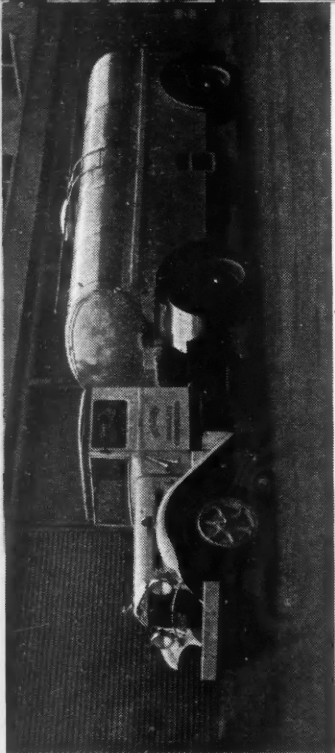
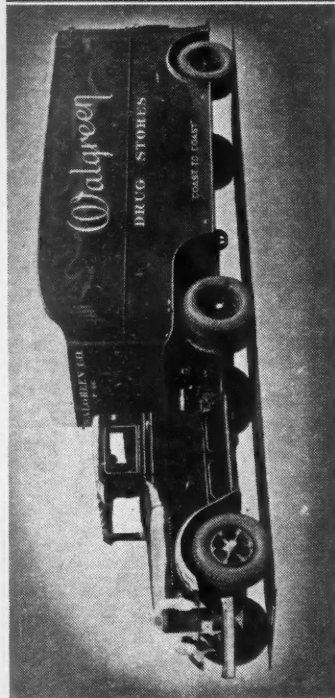
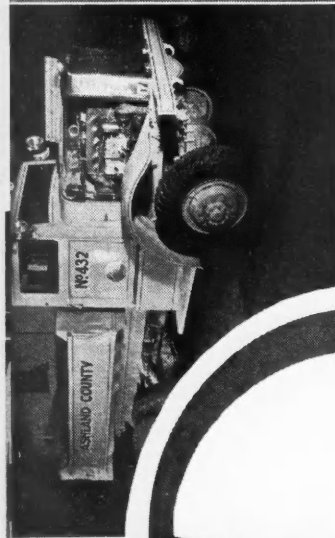
MAKE AND MODEL	Rated Torque Capacity	Type	Facing Material	DIAMETER OF FACING		Number of Facings	No. of Driving Members	No. of Driven Members	Disk or Plate Material	Number of Springs	PRESSURES (Lbs.)				Overall Outside Diameter of Clutch (Ins.)	Flexible Hub Mounting	DRIVE TAKEN BY			Means of Adjustment	Is Clutch Brake Provided	Bell Housing (S. A. E. Nos.)	Weight Complete (Lbs.)	
				Outside (Ins.)	Inside (Ins.)						Total Spring Pressure	Total on Friction Face	Per Sq. In. of Friction Surface	To Disengage at Thrust Bearing			Type of Throwout Bearing	From Flywheel to Driving Members of Clutch	From Driven Members of Clutch to Clutch Shaft					
Borg & Beck	9A-6	120	SP	W-M	9 3/4	5 5/8	2	2	1	St	9	1215	1215	23.7	275	11 1/4	Sg	Opt	L.O.P.	Splines	No	No	5	16.5
	10A-7	150	SP	W-M	10	6	2	2	1	St	9	1395	1395	27.9	300	12 1/4	Sg	Opt	L.O.P.	Splines	No	No	5	19.35
	10A-8	150	SP	W-M	10	6	2	2	1	St	12	1620	1620	32.4	300	12	Sg	Opt	L.O.P.	Splines	No	No	5	21.1
	11A-6	180	SP	Wo	11	6 1/8	2	2	1	St	12	1770	1770	27.0	355	13 1/4	Sg	Opt	L.O.P.	Splines	No	No	4	28.5
	12-Q & 12-QL	200	SP	Wo	11 1/2	7 1/4	2	2	1	St	1	300	1590	23.0	350	12 1/4	Sg	Opt	Pins	Splines	Sc	No	3	33.25
	13-Q	260	SP	Wo	12 1/2	7 1/4	2	2	1	St	1	300	1590	17.8	350	13 1/4	No	Opt	Pins	Splines	Sc	No	3	41.25
	14-Q	375	SP	Wo	13 1/2	7 1/4	2	2	1	St	1	350	2117	19.3	400	14 1/4	No	Opt	Pins	Splines	Sc	No	2	57.0
Brown-Lipe	12-SP	Var	SP	Wo	11 1/2	7 1/4	2	1	1	NI	1	Var	Var	Var	Var	13 3/4	Sg	BT	Keys	Splines	Shs	No	2,3,4	38.0
	13-SP	Var	SP	Wo	12 1/2	7 1/4	2	1	1	NI	1	Var	Var	Var	Var	14 3/4	Sg	BT	Keys	Splines	Shs	No	1,2,3	45.0
	14-SP	Var	SP	Wo	13 1/4	7 1/4	2	1	1	NI	2	Var	Var	Var	Var	15 1/4	Sg	AB	Keys	Splines	Th	Y	1,2,3	58.0
	12-2P	Var	DP	Wo	13	7 3/4	4	2	2	NI	2	Var	Var	Var	Var	15 1/4	No	AB	KP	Splines	Th	Y	1,2,3	84.0
	14-2P	Var	DP	Wo	13 3/4	7 3/4	4	2	2	NI	2	Var	Var	Var	Var	16 1/4	No	AB	KP	Splines	Th	Y	1,2	95.0
Fuller	1-SC-10	Var	MD	Wo	8.18	5.87	10	5	4	St	1	550	550	Var	550		BT	GT	Pins	No	No	1,2,3,4,5	83.0	
	1-SC-12	Var	MD	Wo	8.18	5.87	12	6	5	St	1	550	550	Var	550		BT	GT	Pins	No	No	1,2,3,4,5	87.0	
	1-SC-14	Var	MD	Wo	8.18	5.87	14	7	6	St	1	550	550	Var	550		BT	GT	Pins	No	No	1,2,3,4,5	89.0	
	1-SC-15	Var	MD	Wo	8.18	5.87	16	8	7	St	1	550	550	Var	550		BT	GT	Pins	No	No	1,2,3,4,5	93.0	
	1-SC-10-10	Var	MD	Wo	9.87	6.75	10	5	4	CI	1	700	700	1.71	700		BT	GT	Pins	No	No	1,2,3	83.0	
	1-SC-10-12	Var	MD	Wo	9.87	6.75	12	6	5	CI	1	725	725	1.48	725		BT	GT	Pins	No	No	1,2,3	90.0	
Hele-Shaw	5	210	MO	No	7	6		15	14	BS	1	250		62.0	250	10 1/4	AB	Pins	Pins	Th	Y		58.0	
	6	300	MO	No	9	7		12	11	BS	1	300		56.0	300	12 1/4	AB	Pins	Pins	Th	Y		82.0	
	7	370	MO	No	9	7		15	14	BS	1	300		56.0	300	12	AB	Pins	Pins	Th	Y		86.0	
	8	420	MO	No	11 1/4	9 1/4		12	11	BS	1	400		38.0	400	15 1/4	AB	Pins	Pins	Th	Y		110.0	
	10	575	MO	No	11 1/4	9 1/4		16	15	BS	1	400		38.0	400	15 1/4	AB	Pins	Pins	Th	Y		150.0	
	150	1000	MO	No	17	15		17	16	BS	1	600		54.0	600	21 1/4	AB	Pins	Pins	Th	Y		300.0	
Jones	10	300-450	DP	W-M	8.87	5.25	4	2	2	St	24	1500	Var	Var	300 m	11 1/4	Sr	BT	Cov	Splines	No	No		28.0
	33-A	250-450	DP	W-M	9.87	6 1/4	4	2	2	St	24	Var	Var	Var	Var	11 1/4	Sr	BT	Cov	Splines	No	No	4+	33.0
	35	180-250	SP	W-M	8.87	6.37	2	1	1	St	12	Var	Var	Var	280 m	11 1/4	Sr	BT	Cov	Splines	No	No		17.0
	30	150-285	SD	W-M	9.87	6.37	2	1	1	St	24	1600 m	Var	Var	333 m	12	Sr	BT	Cov	Splines	No	No	2,3,4	24.0
	31	360 m	SD	W-M	10.87	6.37	2	1	1	St	24	Var	Var	Var	285 m	12	Sr	BT	Cov	Splines	No	No	2,3,4,5	29.0
	1400	540 m	SP	W-M	13.87	7.50	2	1	1	St	24	2000 m	Var	Var	348 m	15 1/4	Sr	BT	Cov	Splines	No	No	1,2	72.0
	1300	350-509	SP	W-M	12.87	7.00	2	1	1	St	24	2000 m	Var	Var	348 m	14 1/4	Sr	BT	Cov	Splines	No	No	1,2,3	61.0
	1300-D	600-900	DP	W-M	12.87	7.00	4	1	1	St	24	2000 m	Var	Var	348 m	14 1/4	Sr	BT	Cov	Splines	No	No	1,2,3	92.0
	1400-D	1100 m	DM	W-M	13.87	7.50	4	2	2	St	24	2000 m	Var	Var	348 m	15 1/4	Sr	BT	Cov	Splines	No	No	1,2	97.0
	45	250-335	SD	W-M	11.87	9.37	2	1	1	St	24	Var	Var	Var	350 m	13.37	Sr	BT	Cov	Splines	No	No	2,3,4	38.0
Lipe, W. C.	Z-34-S	200	SP	W-M	11 1/4	7 1/4	2		1	St	1	310	1612	23.9	360 m	13 3/4	Sg	Opt	Lugs	Splines	Shs	No	4+	38.4
	Z-30-S	265	SP	Wo	12 1/2	7 1/4	2		1	St	1	310	1922	21.5	360 m	14 3/4	Sg	Opt	Lugs	Splines	Shs	No	3+	47.7
	Z-32-S		SP	Wo	13 1/2	7 1/4	2		1	St	1	365	1898	17.3	390 m	15 3/4	Sg	Opt	Lugs	Splines	Shs	No	3+	60.0
	Z-31-S	425	SP	Wo	13 1/2	7 1/4	2		1	St	1	420	2840	25.7	450 m	15 3/4	Sg	Opt	Lugs	Splines	Shs	No	3+	62.0
	Z-33-S	515	SP	Wo	15	8	2		1	St	1	485	3150	25.0	500	16 3/4	DD	BA	Lugs	Splines	Shs	No	2+	68.0
	Z-37-S	620	DP	Wo	12 1/2	7 1/4	4	1	2	St	1	485	2420	28.9	500	15 3/4	No	BA	Lugs	Splines	Shs	No	3+	83.0
Long	8 1/4-CB	125	SP	W-M	8 1/4	6	2	2	1	St	6	Var	Var	Var	Var	9 1/4	Sg	BA	CS	Splines	No	No	8+	10.75
	8-CF	135	SP	W-M	9	5 1/4	2	2	1	St	6	Var	Var	Var	Var	11	Sg	BA	CS	Splines	No	No	5+	14.50
	9 1/2-CF	150	SP	W-M	9 1/4	6	2	2	1	St	6	Var	Var	Var	Var	11 1/2	Sg	BA	CS	Splines	No	No	5+	15.75
	10-CF	160	SP	W-M	10	6	2	2	1	St	9	Var	Var	Var	Var	12	Sg	BA	CS	Splines	No	No	5+	20.50
	11-CF	185	SP	W-M	11	6 1/2	2	2	1	St	9	Var	Var	Var	Var	13	Sg	BA	CS	Splines	No	No	4+	23.75
	12-CB	250	SP	W-M	12	7	2	2	1	St	12	Var	Var	Var	Var	14 1/4	Sg	BA	CS	Splines	No	No	3+	37.75
	29-A	225	DP	W-M	9 1/4	6 1/4	4	3	2	St	12	Var	Var	Var	Var	11 1/4	No	BA	Lugs	Splines	No	No	4+	33.00
	31-A	300	DP	W-M	11	6 1/2	4	3	2	St	12	Var	Var	Var	Var	13	No	BA	Lugs	Splines	No	No	4+	44.00
	34-BD	550	DP	W-M	13 1/4	7 1/4	4	3	2	St	18	Var	Var	Var	Var	16 1/4	No	BA	Lugs	Splines	No	No	2+	99.25
	13-6	350	SP	W-M	13 1/4	7 1/4	2	2	1	St	18	Var	Var	Var	Var	15 1/4	Sg	BA	CS	Splines	Sc	No	2+	63.50
	15-4	500	SP	W-M	15 1/4	9	2	2	1	St	18	Var	Var	Var	Var	17 1/4	Sg	BA	CS	Splines	Sc	No	1+	75.50
	17	600	SP	W-M	16 1/4	10	2	2	1	St	30	Var	Var	Var	Var	19 1/4	No	BA	CS	Splines	Sc	No	1+	96.00
Rockford	14-TT	635	SP	W-M	13 1/4	8	2	1	1	St	12	2100	2100	21.8	420	15 1/4	Sg	Opt	L.O.P.	Splines	Sc	No	1,2,3	
	9-TT	225	SP	W-M	9 1/4	6 1/4	2	1	1	St	12	1500	1500	32.0	350	12	No	Opt	L.O.P.	Splines	Sc	No	2,3,4,5	
	9-TT	210	SP	W-M	9	5 1/4	2	1	1	St	12	1350	1350	36.0	295	11 1/4	No	Opt	L.O.P.	Splines	Sc	No	2,3,4,5	
	9-RR	173	SP	W-M	8 1/4	5 1/4	2	1	1	St	6	1110	1110	30.9	285	10 1/4	No	Opt	L.O.P.	Splines	SCL	No	2,3,4,5	
	18-TT	1950	DP	Wo	17 1/2	9 1/4	4	2	2	St	16	3360	2360	19.5	570	21	No	AB	Studs	Splines	Sc	No	0.00	
	12-TT	540	SP	W-M	11 1/2	6 1/2	2	1	1	St	15	2175	2175	35.0	435	14 1/4	Sg	Opt	L.O.P.	Splines	Sc	No	2,3,4	
	14-TT	320	SP	W-M	10 1/2	6 1/2	2	1	1	St	12	1740	1740	31										

(5) Walter dump truck; (6) Autocar;
(7) Studebaker

Illustrations are of (1) Reo; (2) Ford;
(3) Reo; (4) Chevrolet

COMMERCIAL CAR JOURNAL
APRIL, 1937





Illustrations show (left to right) Oshkosh equipped with Hercules diesel; White powered by Buda diesel and Sterling equipped with a Cummins diesel

Diesel ENGINE SPECIFICATIONS

MAKE AND MODEL	GENERAL										VALVES						PISTONS			CONNECT-ING RODS		INJECTION VALVE				Starting Method				
	Type	Number of Cylinders	Piston Displacement (Cu. Ins.)	Maximum Continuous H.P. at Specified R.P.M.	Compression Ratio to 1	Cycle	Specified R.P.M.	Maximum Pressure (Lbs. per Sq. In.)	B.M.E.P. at Maximum H.P. (Lbs. per Sq. In.)	Weight per Rated H.P. (Lbs.)	Maximum Torque in Lbs. Ft. at Specified R.P.M.	Weight Complete (Lbs.)	Arrangement	Timing Deg. before or after Top Center				Material	Length	No. of Rings per Piston	Weight with Rings and Pin (Lbs.)	Center to Center Length	Weight with Cap and Bushings	Valve Type (Open or Closed)	Type Orifices Single, Multiple or Pintle		Injection Pressure (Lbs. per Sq. In.)	Fuel Consumption at Rated Load (Lbs. per B.H.P. Hr.)		
														Inlet Opens	Inlet Closes	Exhaust Opens	Exhaust Closes													
																													Inlet Port Diameter and Lift	Exhaust Port Diameter and Lift
American Monovale.	2-35 DT	2-51x7	332	35-1200	14.7	4	500-1000	750	69	55.1	162-1700	1930 Mo.	2-12-500	T/C	25A	45B	45B	T/C	T/C	Ala	8.00	5	10.7	13.68	13.0	C	Pin	1500	.44	Ele
	4-75 DT	4-51x7	665	75-1200	14.7	4	500-1000	750	74	36.4	325-2800	2735 Mo.	2-12-500	T/C	25A	45B	45B	T/C	T/C	Ala	8.00	5	10.7	13.68	13.0	C	Pin	1500	.44	Ele
	6-125 DT	6-51x7	997	115-1200	14.7	4	500-1000	750	76	30.4	467-3900	3500 Mo.	2-12-500	T/C	25A	45B	45B	T/C	T/C	Ala	8.00	5	10.7	13.68	13.0	C	Pin	1500	.44	Ele
Buda.	4LD-196 AC	4-31x4 1/2	195	48-2400	14.5	4	370-600	625	83	18.4	145-1300	900 Vi	1-37-402	12-402	142B	135A	13A	13A	13A	Al	4.93	5	2.98	9.50	3.41	C	Pin	2000		Ele
	6LD-275 AC	6-31x4 1/2	274	72-2400	13.5	4	370-600	625	87	16.5	200-1300	1190 Vi	1-31-402	12-402	142B	135A	13A	13A	13A	Al	4.93	5	2.98	9.50	3.41	C	Pin	2000		Ele
	8LD-415 AC	8-46x5 1/2	415	91-2000	13.0	4	370-600	625	87	13.9	308-1100	1415 Vi	1-46-478	13-478	144B	145A	6A	6A	6A	Al	5.25	5	4.01	11.00	4.87	C	Pin	2000	.47	Ele
	6LD-468 AC	6-41x5 1/2	468	103-2000	13.0	4	370-600	625	87	13.9	308-1100	1435 Vi	1-46-478	13-478	144B	145A	6A	6A	6A	Al	5.25	5	4.01	11.00	4.87	C	Pin	2000	.47	Ele
	8LD-536 AC	8-41x5 1/2	538	130-1600	12.5	4	370-600	625	93	20.0	460-1100	2560 Vi	1-75-516	15-516	155B	140A	10A	10A	10A	Al	6.00	5	5.43	12.50	10.25	C	Pin	1600		Ele
	6LD-591 AC	6-41x5 1/2	591	130-1600	12.5	4	370-600	625	93	20.0	460-1100	2560 Vi	1-75-516	15-516	155B	140A	10A	10A	10A	Al	6.00	5	5.43	12.50	10.25	C	Pin	1600		Ele
	8LD-599 AC	8-51x7	909	155-1600	12.2	4	370-600	625	90	19.4	700-900	3010 Vi	1-90-540	17-540	147B	141A	11A	11A	11A	Al	6.50	5	9.30	14.25	13.10	C	Pin	1600	.46	Ele
Cummins.	HB DI	4-41x6	448	100-1800	17.0	4			98	16.4		1640 HI	1-93-378	1-93-378	6A	46A	50A	14A	14A	CI	6.25	4	10.20	12.00	10.00	C	Mul		.45	
	HB DI	6-41x6	672	150-1800	17.0	4			98	14.1		2120 HI	1-93-378	1-93-378	6A	46A	50A	14A	14A	CI	6.25	4	10.20	12.00	10.00	C	Mul		.45	
Hercules.	DJXB TC	6-31x4 1/2	260	77-2600	15.0	4	475-1000	750	90	12.7	178-1400	980 Vi	1-62-375	12-375	123	44A	44B	12A	12A	SAA	4.84	6	3.25	8.00	4.90	C	Pin	2100	.44	G-E
	DJXC TC	6-31x4 1/2	298	83-2600	14.5	4	475-1000	750	85	12.3	208-1400	1020 Vi	1-62-375	12-375	123	44A	44B	12A	12A	SAA	4.84	6	3.25	8.00	4.90	C	Pin	2100	.44	G-E
	DRXC TC	6-41x5 1/2	474	120-2000	14.5	4	475-1000	750	100	14.3	350-1300	1750 Vi	2-00-385	13-385	125	44A	44B	12A	12A	SAA	6.84	6	7.10	9.37	9.20	C	Pin	1650	.40	G-E
	DRXC TC	6-41x5 1/2	529	103-1400	14.5	4	475-1000	750	110	17.7	388-1300	2020 Vi	2-00-385	13-385	125	44A	44B	12A	12A	SAA	6.84	6	7.10	9.37	9.20	C	Pin	1650	.40	G-E
	DHXC TC	6-56x6	707	176-1900	14.5	4	475-1000	750	110	14.3	535-1600	2520 Vi	2-37-500	1-62-500	55	50A	45B	10A	10A	SAA	7.53	6	10.00	12.00	11.70	C	Pin	1650	.40	G-E
	DHXC TC	6-56x6	855	98-900	14.5	4	475-1000	750	101	26.0	572-900	2550 Vi	2-37-500	1-62-500	55	50A	45B	10A	10A	SAA	7.53	6	10.00	12.00	11.70	C	Pin	1650	.40	G-E
Waukesha-Hesselman.	XBKH DI*	4-31x4 1/2	210	39-1800	6.2	4	130-1000	450	82	18.3	122-1200	715 Vi	1-62-380	12-380	5B	140B	140A	15A	15A	CI	4.56	4	3.80	8.75	2.87	O	Mul	1200	.56	Ele
	VBKH DI*	4-41x5 1/2	334	61-1800	6.2	4	130-1000	450	80	15.0	221-1100	915 Vi	1-75-450	15-450	5A	140B	140A	10A	10A	CI	5.96	4	6.00	10.50	6.30	O	Mul	1200	.58	Ele
	6BKH DI*	6-31x4 1/2	282	63-2300	6.4	4	135-1000	450	77	11.9	172-1200	750 Vi	1-82-370	12-370	5A	135B	135A	10A	10A	Al	4.87	4	2.56	8.00	2.56	O	Mul	1200	.56	Ele
	6DA-100 TC	6-41x5 1/2	462	95-2000	17.0	4	550-1000	750	81	17.6	276-1100	1675 Vi	1-62-540	13-540	8B	135B	135A	6A	6A	Ala	6.20	5	5.82	11.75	8.10	C	Pin	1500	.53	Ele
Waukesha-Comet.	6DA-14 TC	6-56x5 1/2	648	129-1600	17.0	4	550-1000	750	88	16.7	410-1100	2165 Vi	2-00-540	13-540	8B	135B	135A	6A	6A	Ala	6.20	5	7.30	11.75	8.10	C	Pin	1500	.51	Ele

AC—Air chamber
Al—Aluminum
Ala—Aluminum alloy
B—Before top center (timing)
C—Closed
CI—Cast Iron

DI—Direct injection
DT—Direct injection with turbulence chamber
Ele—Electric
G-E—Gas engine or electric

HI—Horizontally—in head
Mo—Monovalve (single valve used as both intake and exhaust)
Mul—Multiple
O—Open

Pin—Pintle
SAA—Special aluminum alloy
TC—Turbulence chamber
T/C—Top center
Vi—Vertically (in head)

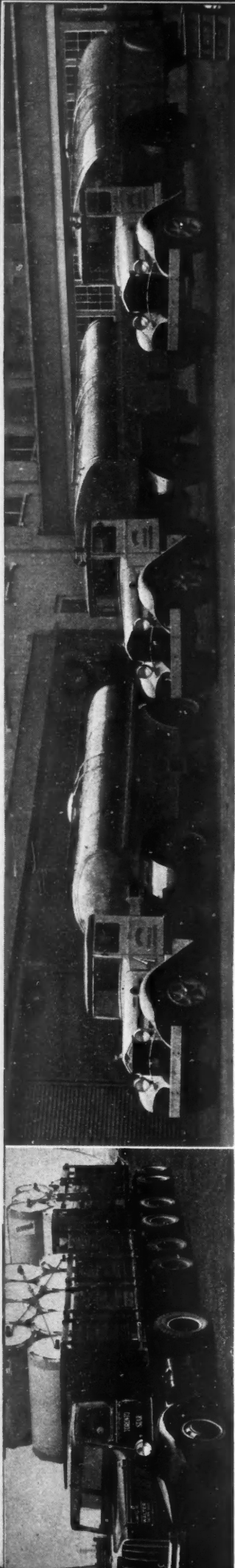
Others also
With aluminum pistons
Also built as "J" head and valve
in head types
A—After top center (timing)
Al—Aluminum alloy
B—Before top center (timing)
C—Closed
CI—Cast iron
Ele—Electric
G-E—Gas engine or electric
Mul—Multiple
O—Open
as both intake and exhaust
T/C—Turbulence chamber
T/C—Top center
VI—Vertically (in head)

Company	Trade Name	Application	How Distributed	Areas of Distribution	FUEL	Cetane No.	Viscosity SSU 100 Deg. F.	Water and Sediment %	Carbon Residue %	Ash %	Flash Deg. F.	Sulphur %	A.S.T.M. DISTILLATION				Gravity	Pour Deg. F.
American Oil Co.	Amo Nos. 2 and 4	High speed	400 branch warehouses	From Maine to Florida and inland	Atlantic Refining Co. Furnace Oil Medium	58	33-45	0.05 Max.	0.05 Max.	0.02 Max.	130- 180 Min.	0.5 Max.						0 Max.
Atlantic Refining Co.	Furnace Oil Medium	Slow speed	Tank truck (also from Pittsburgh)	Mass., R. I., Conn., N. Y. State Barge Canal, Eastern half Penna., N. J., Del., Baltimore	Diesel Engine Fuel Oil	44	42-54	0.05 Max.	0.02 Max.	0.02 Max.	150 Min.	0.5 Max.					28 Min.	0 Max.
Cities Service Oil Co.	Diesel Fuels, Nos. 1, 2 and 3	General automotive	Tank car, tank wagon, drums	New England—New Haven, Hartford, Boston, Lowell, Taunton, Portland, Presque Isle (Nos. 2 and 3 only)	"Conoco" Diesel Fuel	61	48-55	Trace	0.02 Max.	0.05 Max.	200	0.02 Max.					0 Max.	0 Max.
Continental Oil Co.	Special Diesel		Wherever demand ex- ists from	Middle Atlantic—Albany, Rochester, Syracuse, Kingston, Newburgh, New York, Trenton and Millville, N. J., Wilmington, Del., Washington, D. C., York, Lancaster, Pottstown, Chester, (No. 2 only), Philadelphia, Pa. (Nos. 1, 2 and 3.)	Dark Gas Oil	62	38-45	Trace	0.02 Max.	0.05 Max.	180	0.05 Max.					10 Max.	0 Max.
Esso Marketers Standard Oil Co.'s of N. J., Pa., La., Colonial Beacon	Conoco Diesel Dark Gas Oil Conoco Diesel	High speed High speed High speed	Tank car only Tank car only Tank car, wagon	Central and Southwest Refineries: Ponca City and East Chicago	Esso Marketers "Esso Diesel"	70	Max.	0.1	Trace	0.14	200	0.75 Max.					15 Max.	0 Max.
Gulf Oil Corp.	Esso Diesel—208, 211, 230	High speed	Tank wagon, car, bar- rels, some service sta- tions	Ponca City, Okla., Glenrock, Wyo., Artesia, N. M., Ponca City, Okla., Lewiston, Mont.	Phillips Petroleum Co. No. 2	45	35-40	0.1 Max.	0.1 Max.	0.01 Max.	150 Min.	0.75 Max.					29 Min.	0 Max.
Phillips Petroleum Co.	Straight Run Diesel Fuel No. 2, No. 3	All	From bulk plants (bar- rels at warehouses)	East of Mississippi River, Texas	Shell Oil Company Shell "Diesel"	55	40-44	0.1 Max.	0.1 Max.	0.01 Max.	150 Min.	0.75 Max.					30-37 to 10	0 to 10
Richfield Oil Co. of California	Richfield Diesel	All auto diesel	Tank car, tank wagon, drums	Pecora, Kansas City, Wichita, Minneapolis, Amarillo	Shell "Diesel"	58	38	0	Trace	0.02	150 Min.	0.75 Max.					35-40 to 0	0 to 0
Shell Petroleum Corp. (St. Louis)	Shell "Diesel"	All auto diesel	Tank car, tank wagon, drums	62 points in Wash., Oregon, Cal., Ariz., Nev., Idaho	Shell "Diesel"	50	33	0	Trace	0.02	150 Min.	0.75 Max.					35-40 to 0	0 to 0
Shell Oil Co. (San Francisco)	Shell "Diesel"	All auto diesel	Tank car, tank wagon, drums	Ala., Ark., Cal., Fla., Ga., Ill., Ind., Iowa, Kan., Ky., La., Minn., Miss., Mich., Mo., N. D., Neb., Okla., Ohio, S. D., Tex., Tenn., Wis.	Sinclair Refining Co. Sinclair "Superflame"	50	35	0	Trace	0.02	150 Min.	0.75 Max.					35-40 to 0	0 to 0
Sinclair Refining Co.	"Superflame" D., 250, 355, 355 (Winter)	Auto Tractor, Road Building, Rail Car	Tank car, tank wagon, drums	Cal., Ore., Wash., Nev., Ariz., Idaho, and Utah, also in western N. M., Mont., Wyo., N. Y., Pa., R. I., N. J., Del., Md., Va., W. Va., N. C., S. C.	Standard Oil Co. of Cal. Standard Diesel Fuel	55	40	Trace	0.018	Trace	150 Min.	1.0 Max.					34-38 to 0	0 to 0
Socony-Vacuum Oil Co. of California	"Mobilfuel" Diesel	General automotive	Barrels, some stations	Wherever demand exists	Standard Oil Co. of Ind. "Stanolind" H.S. Diesel Fuel	50-55	40-55	0.5 Max.	0.15 Max.	0.01 Max.	160 Min.	0.50					34-38 to 0	0 to 0
Standard Oil Co. of Indiana	"Stanolind" H. S. Diesel Fuel	High speed	Tank wagon, tank car	Cal., Ore., Wash., Hawaiian Isles, Idaho, Nev., Ariz., Utah, Alaska	Sun Oil Company Diesel Fuel Light	53-58	33-36	0.05 Max.	0.1 Max.	Trace	125 Min.	0.15 Max.					34-39 to 5	5 to 5
Sun Oil Company	Diesel Fuel Light	High speed	Drums, tank wagon	Mich., Ind., Ill., Wis., Minn., Iowa, Miss., N. D., S. D., Kan., Mont., Wyo., Cal.	The Texas Company Texaco Diesel Fuel Summer	50-55	43-47	0.02 Max.	0.20 Max.	150 Min.	150 Min.	0.50 Max.					35 to 0	0 to 0
The Texas Company	Texaco Diesel	High speed	Tank cars	Phil., N. J. (Atlantic City, Newark, Trenton); Wilmington, Baltimore, Bridgeport, N. Y. (N. Y. C., Newburgh), Rochester, Westchester Co., Marcus Hook, Newark, Bridgeport, Providence	Texas Diesel Fuel Winter	50-55	38-42	0.02 Max.	0.20 Max.	150 Min.	150 Min.	0.50 Max.					35 to 0	0 to 0
Tide Water Assoc. Oil Tide Wat. Div. (N. Y.) Associated Div. (Cal.)	Tydol No. 2 Associated Motor Diesel	Automotive	Tank wagon, car	Wherever demand exists	Tide Water Assoc. Oil Co. Tydol No. 2 Fuel	50		0.05	0.03	Trace	125- 170 Max.	0.50 Max.					35 to 0	0 to 0
Union Oil Co. of Cal.	"Diesel"	All	Barrels, tank car, truck, some stations	N. E., N. Y., N. J., Pa., Md., D. C. Cal., Ore., Wash., Hawaiian Islands, parts of Idaho, Nev., and Ariz.	Associated Motor Diesel Fuel	63	40	Trace	0.03	Trace	150 Min.	0.75 Max.					31-34 to 0	0 to 0
				Ariz., Cal., Idaho, Nev., Cal., Ore., Wash. (Alaska, B. C., Hawaiian Islands, bulk only)	Union Oil Co. of Cal. "Diesel"	56	42	Trace	0.05	Nil	200	0.75 Max.					32 to 0	0 to 0

DIESEL FUEL DATA

DISTRIBUTION DATA

FUEL SPECIFICATIONS



Diesel Fuel Taxes

STATE	State Gasoline Tax	State Diesel Fuel Tax	Remarks
Alabama.....	6	6	No tax at present.
Arizona.....	6 1/2	6 1/2	Collected by seller.
Arkansas.....	3	3	No tax at present.
California.....	4	4	Same as gasoline tax.
Colorado.....	3	3	Collected by distributor.
Connecticut.....	4	4	Same as gasoline tax.
Delaware.....	4	4	Collected by distributor.
District of Columbia.....	2	2	Not taxable unless mixed with gasoline.
Florida.....	7	7	No tax at present.
Georgia.....	5	5	Same as gasoline tax.
Idaho.....	5	5	Same as gasoline tax.
Illinois.....	3	3	Same as gasoline tax.
Indiana.....	4	4	Same as gasoline tax.
Iowa.....	3	3	Same as gasoline tax.
Kansas.....	3	3	Same as gasoline tax.
Kentucky.....	5	5	Same as gasoline tax.
Louisiana.....	5	5	Same as gasoline tax.
Maine.....	4	4	Same as gasoline tax.
Maryland.....	4	4	Same as gasoline tax.
Massachusetts.....	3	3	Same as gasoline tax.
Michigan.....	3	3	Same as gasoline tax.
Minnesota.....	3	3	Same as gasoline tax.
Mississippi.....	6	6	Same as gasoline tax.
Missouri.....	2	2	Same as gasoline tax.
Montana.....	5	5	No tax at present.
Nebraska.....	4	4	Collected at Port of Entry if for use in motor vehicles.
Nevada.....	4	4	Same as gasoline tax.
New Hampshire.....	4	4	Same as gasoline tax.
New Jersey.....	3	3	Same as gasoline tax.
New Mexico.....	3	3	Same as gasoline tax.
New York.....	3	3	Same as gasoline tax.
North Carolina.....	3	3	Same as gasoline tax.
North Dakota.....	3	3	Same as gasoline tax.
Ohio.....	4	4	Same as gasoline tax.
Oklahoma.....	4	4	Same as gasoline tax.
Oregon.....	5	5	Diesels also charged higher license fee—\$1.50 per 100 lbs. light weight.
Pennsylvania.....	4	4	Same as gasoline tax.
Rhode Island.....	2	2	Same as gasoline tax.
South Carolina.....	2	2	Same as gasoline tax.
South Dakota.....	4	4	Same as gasoline tax.
Tennessee.....	7	7	Same as gasoline tax.
Texas.....	4	4	Same as gasoline tax.
Utah.....	4	4	Same as gasoline tax.
Vermont.....	4	4	Same as gasoline tax.
Virginia.....	4	4	Same as gasoline tax.
Washington.....	5	5	Same as gasoline tax.
West Virginia.....	4	4	Same as gasoline tax.
Wisconsin.....	4	4	Same as gasoline tax.
Wyoming.....	4	4	Same as gasoline tax.
FEDERAL.....	1	No	No tax collected at present.

Truck Fleets By Sizes*

STATE	5-9	10-24	25-49	50-99	1000 & over	TOTAL
Alabama.....	106	92	17	8	2	225
Arizona.....	34	53	13	2	1	103
Arkansas.....	53	57	11	4	4	125
California.....	73	73	248	105	110	1,395
Colorado.....	132	120	23	9	12	306
Connecticut.....	136	320	87	18	25	646
Delaware.....	22	51	11	7	2	93
District of Columbia.....	106	59	41	31	19	256
Florida.....	171	177	35	13	8	405
Georgia.....	165	125	33	8	15	348
Idaho.....	23	18	1	3	1	46
Illinois.....	1,136	1,012	226	104	96	2,574
Indiana.....	444	366	77	19	13	919
Iowa.....	213	174	40	12	6	445
Kansas.....	151	121	19	8	6	305
Kentucky.....	149	108	22	20	6	305
Louisiana.....	153	146	22	13	11	352
Maine.....	43	74	14	2	6	139
Maryland.....	242	180	68	21	17	526
Massachusetts.....	710	591	140	64	48	1,554
Michigan.....	674	546	158	62	44	1,484
Minnesota.....	206	231	72	34	22	565
Mississippi.....	53	29	5	2	2	91
Missouri.....	345	380	98	47	34	904
Montana.....	61	39	7	4	1	112
Nebraska.....	132	108	29	8	11	288
Nevada.....	19	12	5	1	0	37
New Hampshire.....	28	46	6	5	1	88
New Jersey.....	603	591	140	44	41	1,419
New Mexico.....	13	20	6	2	2	43
New York.....	1,857	955	312	154	155	3,466
North Carolina.....	201	121	29	7	9	342
North Dakota.....	121	121	21	2	1	245
Oklahoma.....	936	569	193	67	59	1,844
Oregon.....	148	11	35	19	17	330
Pennsylvania.....	112	53	24	9	6	234
Rhode Island.....	1,057	1,072	266	99	101	2,615
South Carolina.....	117	136	29	6	10	298
South Dakota.....	82	52	10	7	3	154
Tennessee.....	164	159	33	12	10	378
Texas.....	247	432	110	40	33	862
Utah.....	69	69	19	2	2	151
Vermont.....	25	14	3	4	0	46
Virginia.....	167	133	33	14	6	353
Washington.....	236	165	45	25	17	488
West Virginia.....	178	109	9	11	10	315
Wisconsin.....	384	267	63	29	14	757
Wyoming.....	28	21	7	1	2	59
TOTAL.....	13,179	11,202	2,928	1,189	1,023	29,821

*These figures are based on the number of TRUCKS operated. If they were based on VEHICLES (thereby including passenger cars and buses), the figures would, of course, be much higher.

Top—Sterling trucks powered by Cummins diesel. Above—Diamond T model 20-D tractor powered by a Hercules DXB diesel. Top left—Walter truck equipped with a Cummins diesel

Vocational Breakdown of Fleets With 5 or More Trucks

Bakeries, Candies.....	1,695
Bottlers, Breweries.....	1,943
Builders, Roofers, Contractors.....	4,033
Butter, Eggs, Milk, Dairy Products.....	1,455
Coal Dealers, Mineral Mines.....	1,721
Department Stores, Furniture, Clothing.....	118
Flour, Feed, Millers, Grains.....	271
Ice Cream Manufacturers, retail distribution.....	569
Ice Dealers, Manufacturers.....	828
Laundries, Cleaners, Dyers.....	1,967
Manufacturers, Steel Mills.....	1,239
Meats, Fish, Packers.....	1,016
Miscellaneous.....	984
Motor Freight, Local, Intra- and Interstate.....	8,113
Newspapers, Publishers.....	293
Oils, Gasoline, Greases.....	1,661
Paints, Varnishes, Chemicals, Drugs.....	284
State, County, Municipal, Public Utilities, Railroads.....	2,827
Vegetables, Grocers, Fruits, Truck Farmers, Chain Stores.....	2,007

Includes duplications of fleets in more than one vocation. 32,822

*These figures are based on the number of cylinders in more than one vocation, they were based on VEHICLES (thereby including passenger cars and buses), the figures would, of course, be much higher.

*These figures are based on the number of cylinders in more than one vocation, they were based on VEHICLES (thereby including passenger cars and buses), the figures would, of course, be much higher.

*Same as gasoline tax.
No tax at present.
No tax collected at present.

4
4
4
4
1

MAKE AND MODEL	Number of Cylinders Bore and Stroke (Ins.)	Maximum Brake H.P. at Specified R.P.M.	Piston Displacement (Cu. Ins.)	Compression Ratio	Maximum Torque at R.P.M. (Lb. Ft.)	Crankcase—Upper Half Integral with Cylinders	VALVES				PISTONS				CONNECT- ING RODS				CRANKSHAFT				OVERALL DIMENSIONS (Ins.)				Bell Housing Provided S.E. Numbers								
							Clear Diameter (Ins.)		Lift (Ins.)	Stem Diam. (Ins.)	Seat Angle (Degrees)	Front End Drive—Type	Material	Length (Ins.)	Weight (With Pins, Rings and Bushing)—Ozs.	Piston Pin— Diameter and Length (Ins.)	Number of Rings per Piston	Center to Center Length (Ins.)	Weight—With Bushing and Cap (Ozs.)	Counterbalances Used	Crankpin Diameter and Length (Ins.)	Number	Front Diameter and Length (Ins.)	Rear Diameter and Length (Ins.)	Oil Pressure to Spark Plug Thread Size	Carburetor Size		Adapted for Kerosene or Distillate or Ignition)—Lbs.	Weight (Without Carburetor or Ignition)—Lbs.	Width	Height	Length			
							Intake	Exhaust																											
																																	Intake	Exhaust	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
American LaF. 312	12-4x5	240-2800	764	5.16	510-1600	In	1.75	1.75	1.75	406	406	375	45	Ch	Ala	4.84	39.0	1.12x3.62	4	12.00	85.0	...	2.75x2.75	4	3.50x2.25	3.50x2.37	abode	18 m.	1 1/2	N	1980	31 1/2	43 1/2	56 1/2	1, 2
Autocar	8-4x4 1/2	85-2300	388	5.50	290-800	Se	1.68	1.68	1.68	375	375	375	45	Ch	Ala	5.75	50.7	1.12x3.68	4	10.25	78.9	N	2.50x1.62	7	3.00x2.87	3.00x2.87	abode	18 m.	1 1/2	N	1120	26	34	43 1/2	2
BTU	4-4x4 1/2	404	4	5.50	290-800	Se	1.67	1.67	1.67	375	375	375	45	Ch	Ala	5.75	50.7	1.12x3.68	4	10.25	78.9	N	2.50x1.62	7	3.00x2.87	3.00x2.87	abode	18 m.	1 1/2	N	1275	27	40	47 1/2	2
ET-350	6-4x4 1/2	463	6	5.50	335-800	Se	1.67	1.67	1.67	375	375	375	45	Ch	Ala	5.75	50.7	1.12x3.68	4	10.25	78.9	N	2.50x1.62	7	3.00x2.87	3.00x2.87	abode	18 m.	1 1/2	N	1300	27	40	47 1/2	2
ET-350	6-4x4 1/2	501	6	5.50	335-800	Se	1.67	1.67	1.67	375	375	375	45	Ch	Ala	5.75	50.7	1.12x3.68	4	10.25	82.7	N	2.12x1.61	7	3.25x1.98	3.25x2.87	abode	18 m.	1 1/2	N	1300	27	40	47 1/2	2
Buda	4-3 1/2 x 4 1/2	52-2600	205	4.75	132-1200	In	1.60	1.60	1.60	344	344	372	45	Ch	Cl	3.75	42.0	1.12x3.22	4	9.50	42.0	N	2.12x1.62	5	3.00x1.50	3.00x2.12	abode	18m.	1 1/2	N	825	26	28 1/2	31 1/2	4
ET-350	4-3 1/2 x 4 1/2	47-1800	217	4.75	140-1200	In	1.60	1.60	1.60	344	344	372	45	Ch	Cl	3.75	42.0	1.12x3.22	4	9.50	42.0	N	2.12x1.62	5	3.00x1.50	3.00x2.12	abode	18m.	1 1/2	N	840	26	28 1/2	31 1/2	4
ET-350	4-3 1/2 x 4 1/2	50-1400	381	4.10	222-850	Se	1.67	1.67	1.67	261	261	375	45	Ch	Cl	5.37	89.0	1.12x3.08	4	13.25	113.0	N	2.12x2.50	3	2.12x3.09	2.37x3.94	abode	18 m.	1 1/2	N	980	25 1/2	30 1/2	40 1/2	3
BTU	4-3 1/2 x 4 1/2	61-1200	810	4.48	350-850	Se	2.12	2.12	2.12	375	375	434	45	Ch	Cl	6.25	97.0	1.25x3.87	4	12.25	113.0	N	2.25x3.00	3	2.12x3.31	2.37x4.44	abode	18 m.	1 1/2	N	1087	25 1/2	36 1/2	47 1/2	3
ET-350	4-3 1/2 x 4 1/2	78-1200	817	4.48	410-850	Se	2.25	2.25	2.25	375	375	434	45	Ch	Cl	6.75	142.0	1.37x4.37	4	14.37	163.0	N	2.50x3.12	3	2.25x4.12	2.62x4.69	abode	18 m.	1 1/2	N	1409	28 1/2	40 1/2	52 1/2	1
ET-350	4-3 1/2 x 4 1/2	108-1000	877	4.48	645-850	Se	2.50	2.50	2.50	375	375	434	30	Ch	Cl	6.87	189.5	2.00x5.33	4	14.62	227.2	N	3.00x3.31	3	3.00x4.75	3.00x4.75	abode	18 m.	1 1/2	N	1925	30	44 1/2	56 1/2	1
ET-350	6-3 1/2 x 4 1/2	68-2800	259	4.75	185-1200	In	1.50	1.50	1.50	344	344	372	45	Ch	Cl	3.75	37.0	1.12x3.20	4	9.50	42.0	N	2.12x1.62	7	3.00x1.50	3.00x2.12	abode	18 m.	1 1/2	N	675	25 1/2	33 1/2	38 1/2	3
ET-350	6-3 1/2 x 4 1/2	75-2800	258	4.75	190-1100	In	1.50	1.50	1.50	344	344	372	45	Ch	Cl	3.75	42.0	1.12x3.22	4	9.50	42.0	N	2.12x1.62	7	3.00x1.50	3.00x2.12	abode	18 m.	1 1/2	N	675	25 1/2	33 1/2	38 1/2	3
ET-350	6-3 1/2 x 4 1/2	87-2800	325	4.75	190-900	In	1.50	1.50	1.50	344	344	372	45	Ch	Cl	3.75	42.0	1.12x3.22	4	9.50	58.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	900	25 1/2	33 1/2	38 1/2	3
ET-350	6-3 1/2 x 4 1/2	103-2600	369	4.75	225-1100	In	1.75	1.75	1.75	400	400	372	45	Ch	Cl	4.37	63.5	1.25x3.47	4	9.50	58.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	900	25 1/2	33 1/2	38 1/2	3
ET-350	6-4 1/2 x 4 1/2	107-2600	428	4.75	290-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Cl	4.37	68.3	1.25x3.82	4	9.50	58.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	900	25 1/2	33 1/2	38 1/2	3
ET-350	6-4 1/2 x 4 1/2	125-2400	468	4.80	305-700	In	1.75	1.75	1.75	400	400	372	45	Ch	Cl	4.75	84.0	1.25x3.47	4	11.00	66.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	950	25 1/2	33 1/2	38 1/2	3
ET-350	6-4 1/2 x 4 1/2	125-2400	468	5.00	342-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Cl	4.75	84.0	1.25x3.47	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1210	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	66.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	950	25 1/2	33 1/2	38 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75	7	3.00x1.75	3.00x2.50	abode	18 m.	1 1/2	N	1195	26	38 1/2	47 1/2	3
ET-350	6-4 1/2 x 4 1/2	135-2200	525	4.75	340-1200	In	1.75	1.75	1.75	400	400	372	45	Ch	Ala	4.75	88.0	1.25x3.94	4	11.00	78.0	N	2.37x1.75												

Gasoline Engine Specifications—Continued

MAKE AND MODEL	Number of Cylinders, Bore and Stroke (Ins.)	Maximum Brake HP at Specified R.P.M.	Piston Displacement (Cu. Ins.)	Compression Ratio	Maximum Torque at R.P.M. (Lb. Ft.)	Crankcase—Upper Half Integral with Cylinders Arrangement	VALVES				PISTONS				CONNECT-ING RODS		CRANKSHAFT				Spark Plug Thread Size	Carburetor Size	Adapted for Kerosene or Distillate or Ignition—Lbs.	OVERALL DIMENSIONS (Ins.)			Bell Housing Provided							
							Clear Diameter (Ins.)	Intake Lift (Ins.)	Exhaust Stem Dia. (Ins.)	Seat Angle (Degrees)	Front End Drive—Type	Material	Length (Ins.)	Weight (with Pins, Rings and Bushing)—Ozs.	Piston Pin—Diameter and Length (Ins.)	Number of Rings per Piston	Center to Center Length (Ins.)	Weight—With Bushing and Cap (Ozs.)	Counter Balances U. ed	Diameter and Length (Ins.)				Crankpin	Main Bearings									
																									Front	Rear		Diameter and Length (Ins.)						
Continental (cont.)	2	66-3200	202	5.00	150-1375	In	1.36	1.06	378	378	314	30	Hi	CI	3.56	8.99	2.62	4	7.00	26.0	Y	1.94x1.31	4	2.25x1.25	2.25x1.69	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
D-6202	6-3 1/2 x 4 1/2	71-3300	209	5.00	154-1300	In	1.36	1.06	378	378	314	30	Hi	CI	3.56	8.99	2.62	4	7.00	26.0	Y	1.94x1.31	4	2.25x1.25	2.25x1.69	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
F-6209	6-3 1/2 x 4 1/2	66-3125	217	5.00	162-1375	In	1.36	1.06	378	378	314	30	Hi	CI	3.56	8.99	2.62	4	7.00	26.0	Y	1.94x1.31	4	2.25x1.25	2.25x1.69	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
D-6218	6-3 1/2 x 4 1/2	73-3200	217	5.00	162-1375	In	1.36	1.06	378	378	314	30	Hi	CI	3.56	8.99	2.62	4	7.00	26.0	Y	1.94x1.31	4	2.25x1.25	2.25x1.69	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
A-6222	6-3 1/2 x 4 1/2	78-3500	244	5.60	150-1300	In	1.35	1.30	344	344	340	45	Ch	AI	3.94	8.99	2.87	4	8.37	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
A-6244	6-3 1/2 x 4 1/2	85-3350	244	5.60	170-1300	In	1.35	1.30	344	344	340	45	Ch	AI	3.94	8.99	2.87	4	8.37	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
E-801	6-3 1/2 x 4 1/2	73-2700	268	4.67	192-900	In	1.31	1.62	406	406	406	30	Hi	CNI	5.31	1.25x3.09	4	9.00	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
E-800	6-3 1/2 x 4 1/2	80-2650	318	4.54	214-900	In	1.31	1.62	406	406	406	30	Hi	CNI	5.31	1.25x3.09	4	9.00	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
E-602	6-3 1/2 x 4 1/2	90-2650	360	4.46	256-1000	In	1.31	1.62	406	406	406	30	Hi	CNI	5.31	1.25x3.44	4	9.00	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
E-603	6-3 1/2 x 4 1/2	90-2650	383	4.54	256-1000	In	1.31	1.62	406	406	406	30	Hi	CNI	5.31	1.25x3.44	4	9.00	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt	
20-R	6-4 1/2 x 4 1/2	108-2600	380	4.76	278-1200	In	1.31	1.62	448	448	448	30	Ch	AI	5.31	1.25x3.44	4	9.50	9.00	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt
21-R	6-4 1/2 x 4 1/2	118-2650	428	4.62	308-1200	In	1.31	1.62	448	448	448	30	Ch	AI	5.31	1.25x3.69	4	9.50	9.00	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt
22-R	6-4 1/2 x 4 1/2	138-2400	501	4.50	364-1200	In	1.31	1.62	448	448	448	30	Ch	AI	5.94	1.50x3.72	4	10.50	9.50	6.92	26.0	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	18 m.	1 1/2	17 1/2	25 1/2	31 1/2	38	Opt
Dodge (228 cu. in.)	6-3 1/2 x 4 1/2	78-3000	228	5.8	158-1200	In	1.31	1.62	448	448	448	30	Ch	AI	3.7	1.32x2.7	4	8	8	32.2	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	14m.	1 1/2	23 1/2	33 1/2	32 1/2	38	Opt	
(218 cu. in.)	6-3 1/2 x 4 1/2	73-3000	218	5.8	150-1200	In	1.31	1.62	448	448	448	30	Ch	AI	3.7	1.32x2.7	4	8	8	31.8	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	14m.	1 1/2	23 1/2	33 1/2	32 1/2	38	Opt	
(241 cu. in.)	6-3 1/2 x 4 1/2	85-3000	241	5.8	178-1200	In	1.31	1.62	448	448	448	30	Ch	AI	3.7	1.32x2.7	4	7 1/2	31.6	16.54	Y	2.00x1.37	4	2.37x1.44	2.37x1.87	abc	14m.	1 1/2	23 1/2	33 1/2	32 1/2	38	Opt	
Domark 6AH(1)309	6-3 1/2 x 5	84-2500	309	4.90	210-1500	Se	1.31	1.31	378	378	378	30	Hi	AI	4.37	1.25x3.12	4	8.50	54.0	54.0	Y	2.37x1.75	7	2.70x2.25	2.70x2.87	abdeff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
6A-309	6-3 1/2 x 5	84-2500	309	4.90	210-1500	Se	1.31	1.31	378	378	378	30	Hi	AI	4.37	1.25x3.12	4	8.50	54.0	54.0	Y	2.37x1.75	7	2.70x2.25	2.70x2.87	abdeff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
6A-377	6-4 x 5	104-2500	377	4.90	250-1500	Se	1.31	1.43	378	378	378	30	Hi	AI	4.37	1.25x3.12	4	8.50	54.0	54.0	Y	2.37x1.75	7	2.70x2.25	2.70x2.87	abdeff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
6A-377	6-4 x 5	104-2500	377	4.90	250-1500	Se	1.31	1.43	378	378	378	30	Hi	AI	4.37	1.25x3.12	4	8.50	54.0	54.0	Y	2.37x1.75	7	2.70x2.25	2.70x2.87	abdeff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
6A-400	6-4 1/2 x 5	110-2500	400	5.10	268-1500	Se	1.31	1.43	378	378	378	30	Hi	AI	4.37	1.25x3.12	4	8.50	54.0	54.0	Y	2.37x1.75	7	2.70x2.25	2.70x2.87	abdeff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
6A-400	6-4 1/2 x 5	110-2500	400	5.10	268-1500	Se	1.31	1.43	378	378	378	30	Hi	AI	4.37	1.25x3.12	4	8.50	54.0	54.0	Y	2.37x1.75	7	2.70x2.25	2.70x2.87	abdeff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
Ford	6-2.60x3.20	80-3500	136	6.75	94-2500	In	1.28	1.28	261	261	278	45	Hi	AS	8.11	6.97x2.36	3	6.12	9.52	9.52	Y	1.60x1.54	3	2.00x1.66	2.00x2.00	abc	14 m.	78(D)	400	24 1/2	32 1/2	43 1/2	4 1/2	
V-85	8-3.06x3.75	148-3900	221	6.75	148-3900	In	1.33	1.53	262	262	310	45	Hi	AS	10.62	7.60x2.85	3	7.00	16.54	16.54	Y	2.00x1.83	3	2.40x1.56	2.40x2.25	abce	18 m.	97(D)	562	23 1/2	31 1/2	42 1/2	4 1/2	
Hall-Scott	4-4 1/2 x 5 1/2	72-2000	312	4.40	220-1100	Se	1.33	1.90	343	343	437	45	HC	AI	5.21	1.25x3.25	6	11.00	105.0	105.0	N	2.25x2.00	3	3.00x2.31	2.75x2.31	abceff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
165	4-4 1/2 x 5 1/2	80-2000	390	4.40	255-1000	Se	1.33	1.90	343	343	437	45	HC	AI	5.21	1.25x3.25	6	11.00	105.0	105.0	N	2.25x2.00	3	3.00x2.31	2.75x2.31	abceff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
167	4-4 1/2 x 5 1/2	80-2000	390	4.40	255-1000	Se	1.33	1.90	343	343	437	45	HC	AI	5.21	1.25x3.25	6	11.00	105.0	105.0	N	2.25x2.00	3	3.00x2.31	2.75x2.31	abceff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
(2) 130	6-4 x 5	124-2500	425	5.30	310-1000	Se	1.33	1.93	312	312	421	45	HC	AI	4.56	1.00x3.43	4	11.00	83.0	83.0	Y	2.25x1.75	7	3.00x1.50	3.00x2.25	abceff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
165	6-4 1/2 x 5 1/2	164-2000	468	4.74	336-1000	Se	1.33	1.93	312	312	421	45	HC	AI	4.56	1.00x3.43	4	11.00	102.0	102.0	Y	2.25x1.75	7	3.00x1.50	3.00x2.25	abceff	18 m.	1 1/2	40 1/2	27 1/2	44	44	2 3/4	
165	6-4 1/2 x 5 1/2	164-2000	468	4.74	336-1000	Se	1.33	1.93	312	312	421	45	HC	AI	4.56	1.00x3																		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
YXC	6-43x48	84-2200	428	4.40	281-800	In	L	1.75	1.75	1.75	368	373	45	HI	CI	4.87	79.5	1.25x3.93	5	9.62	64.5	0.01	2.5x1.75	7	3.00x2.00	3.00x3.00	abce	18 m.	1 1/2	N	975	211	311	45 1/2	2.3	
YXC2	6-43x48	86-2200	463	4.77	320-800	In	L	1.75	1.75	1.75	368	373	45	HI	CI	4.87	80.0	1.25x3.93	5	9.62	64.5	0.01	2.5x1.75	7	3.00x2.00	3.00x3.00	abce	18 m.	1 1/2	N	975	211	311	45 1/2	2.3	
YXC3	6-43x48	104-2200	478	4.95	330-1000	In	L	1.75	1.75	1.75	368	373	45	HI	CI	4.87	80.0	1.25x3.93	5	9.62	64.5	0.01	2.5x1.75	7	3.00x2.00	3.00x3.00	abce	18 m.	1 1/2	N	975	211	311	45 1/2	2.3	
YXC4	6-43x48	114-2200	529	4.95	380-1000	In	L	1.75	1.75	1.75	368	373	45	HI	CI	4.87	80.0	1.25x3.93	5	9.62	64.5	0.01	2.5x1.75	7	3.00x2.00	3.00x3.00	abce	18 m.	1 1/2	N	1000	211	311	45 1/2	2.3	
YXC5	6-43x48	114-2200	529	4.95	380-1000	In	L	1.75	1.75	1.75	368	373	45	HI	CI	4.87	80.0	1.25x3.93	5	9.62	64.5	0.01	2.5x1.75	7	3.00x2.00	3.00x3.00	abce	18 m.	1 1/2	N	1000	211	311	45 1/2	2.3	
YXC6	6-43x48	146-2000	779	4.50	480-1000	Se	L	2.12	2.00	2.00	468	468	48	HI	CI	6.50	95.0	1.50x4.43	4	12.00	143.0	0.01	3.00x2.25	7	3.50x2.37	3.50x3.50	abce	18 m.	1 1/2	N	1010	211	311	45 1/2	2.3	
YXC7	6-43x48	164-2000	779	4.50	480-1000	Se	L	2.12	2.00	2.00	468	468	48	HI	CI	6.50	95.0	1.50x4.43	4	12.00	143.0	0.01	3.00x2.25	7	3.50x2.37	3.50x3.50	abce	18 m.	1 1/2	N	1010	211	311	45 1/2	2.3	
YXC8	6-43x48	180-2000	835	4.51	555-1000	Se	L	2.12	2.00	2.00	468	468	48	HI	CI	6.50	95.0	1.50x4.43	4	12.00	143.0	0.01	3.00x2.25	7	3.50x2.37	3.50x3.50	abce	18 m.	1 1/2	N	1010	211	311	45 1/2	2.3	
YXC9	6-43x48	198-2000	835	4.51	555-1000	Se	L	2.12	2.00	2.00	468	468	48	HI	CI	6.50	95.0	1.50x4.43	4	12.00	143.0	0.01	3.00x2.25	7	3.50x2.37	3.50x3.50	abce	18 m.	1 1/2	N	1010	211	311	45 1/2	2.3	
International HD	6-31x41	78-2400	213	6.40	151-(r)	In	L	1.68	1.46	1.46	328	328	45	HI	CI	3.99	33.5	0.93x2.87	4	8.25	35.6	Y	2.00x1.21	4	2.62x1.54	2.62x2.09	abce	18 m.	1 1/2	N	485				4	
FAB-223	6-31x41	78-2400	222	6.40	151-(r)	In	L	1.68	1.46	1.46	328	328	45	HI	CI	3.99	33.5	0.93x2.87	4	8.25	35.6	Y	2.00x1.21	4	2.62x1.54	2.62x2.09	abce	18 m.	1 1/2	N	485				4	
FBB-279	6-31x41	82-2400	278	6.40	180-(r)	In	L	1.68	1.46	1.46	328	328	45	HI	CI	3.99	33.5	0.93x2.87	4	8.25	35.6	Y	2.00x1.21	4	2.62x1.54	2.62x2.09	abce	18 m.	1 1/2	N	485				4	
FBB-288	6-31x41	82-2400	278	6.40	180-(r)	In	L	1.68	1.46	1.46	328	328	45	HI	CI	3.99	33.5	0.93x2.87	4	8.25	35.6	Y	2.00x1.21	4	2.62x1.54	2.62x2.09	abce	18 m.	1 1/2	N	485				4	
FDB	6-31x41	122-2200	524	4.40	385-1200	In	L	2.37	2.37	2.37	437	437	430	HI	Ala	5.78	72.7	1.48x3.71	4	11.75	138.9	N	2.75x2.00	7	3.25x2.56	3.25x3.50	abode	18 m.	1 1/2	N	1840				1	
FEB	6-31x41	140-2100	648	4.40	480-1000	In	L	2.37	2.37	2.37	437	437	430	HI	Ala	5.78	72.7	1.48x3.71	4	11.75	138.9	N	2.75x2.00	7	3.25x2.56	3.25x3.50	abode	18 m.	1 1/2	N	1840				1	
oming	AFE	37-1600	189	4.82	134-750	In	L	1.50	1.37	1.37	312	312	343	45	HI	CI	4.50	45.7	0.875x3.21	4	9.00	41.5	N	2.12x1.50	3	2.12x1.75	2.12x2.37	abc	18 m.	1 1/2	N	475	253	321	321	4
oming	ASE	60-2100	288	5.26	205-800	In	L	1.75	1.62	1.62	312	312	375	HI	Ala	4.25	34.4	1.00x3.21	4	9.00	54.4	Y	2.34x1.68	5	2.62x2.12	2.62x2.75	abode	18 m.	1 1/2	N	785	26	311	411	3	
oming	AEF	120-2000	419	5.26	302-1200	In	L	1.75	1.50	1.50	343	343	375	HI	Ala	4.25	32.2	1.00x3.21	4	9.00	54.4	Y	2.34x1.68	5	2.62x2.12	2.62x2.75	abode	18 m.	1 1/2	N	785	26	311	411	3	
oming	AG	74-1600	471	3.90	200-800	Se	L	2.09	1.96	1.96	437	437	500	30	HI	CI	6.81	137.1	1.43x4.50	3	15.00	160.0	Y	2.37x3.25	3	2.86x3.06	2.83x3.93	abc	18 m.	1 1/2	N	1250	325	447	483	Yes
oming	AG	90-2000	303	5.40	237-1000	In	L	1.62	1.50	1.50	365	365	375	30	HI	Ala	4.31	40.6	1.00x3.25	4	11.25	62.0	Y	2.37x1.62	7	2.62x1.68	2.62x2.78	abc	18 m.	1 1/2	N	859	263	38	481	Yes
oming	CG	100-2000	365	5.40	237-1000	In	L	1.62	1.50	1.50	365	365	375	30	HI	Ala	4.31	40.6	1.00x3.25	4	11.25	62.0	Y	2.37x1.62	7	2.62x1.68	2.62x2.78	abc	18 m.	1 1/2	N	859	263	38	481	Yes
oming	CE	108-2400	417	5.00	270-1000	Se	L	1.81	1.68	1.68	375	375	500	30	HI	CI	5.37	80.9	1.12x3.87	4	12.50	83.0	Y	2.50x1.81	7	3.00x2.25	3.00x3.12	abce	18 m.	1 1/2	N	1199	29	41	50	Yes
oming	CF	118-2400	467	5.00	270-1000	Se	L	1.81	1.68	1.68	375	375	500	30	HI	CI	5.37	80.9	1.12x3.87	4	12.50	83.0	Y	2.50x1.81	7	3.00x2.25	3.00x3.12	abce	18 m.	1 1/2	N	1199	29	41	50	Yes
oming	CT	128-2400	524	4.80	380-900	Se	L	1.81	1.68	1.68	375	375	500	30	HI	Ala	5.75	82.1	1.12x4.12	4	12.50	83.0	Y	2.50x1.81	7	3.00x2.25	3.00x3.12	abce	18 m.	1 1/2	N	1214	27	39	50	Yes
oming	CT	128-2400	524	4.80	380-900	Se	L	1.81	1.68	1.68	375	375	500	30	HI	Ala	5.75	82.1	1.12x4.12	4	12.50	83.0	Y	2.50x1.81	7	3.00x2.25	3.00x3.12	abce	18 m.	1 1/2	N	1214	27	39	50	Yes
oming	CP	132-2200	611	4.75	390-900	Se	L	1.94	1.71	1.71	375	375	500	30	HI	CI	6.17	137.4	1.43x4.51	3	15.00	159.0	Y	2.68x3.00	4	3.43x2.93	3.25x3.75	abc	18 m.	1 1/2	N	1905	314	46	674	Yes
oming	AP	138-1600	708	4.40	470-800	Se	L	2.06	1.93	1.93	437	437	500	30	HI	CI	6.17	137.4	1.43x4.51	3	15.00	159.0	Y	2.68x3.00	4	3.43x2.93	3.25x3.75	abc	18 m.	1 1/2	N	1905	314	46	674	Yes
oming	S-140	45-2800	140	5.40	95-160	In	L	1.37	1.06	1.06	294	312	312	45	HI	Ala	3.56	17.5	0.89x2.69	4	7.00	29.7	Y	1.93x1.31	3	2.25x1.25	2.25x1.68	abc	14 m.	1 1/2	N	520				3M
oming	S-160	45-2800	140	5.40	95-160	In	L	1.37	1.06	1.06	294	312	312	45	HI	Ala	3.56	17.5	0.89x2.69	4	7.00	29.7	Y	1.93x1.31	3	2.25x1.25	2.25x1.68	abc	14 m.	1 1/2	N	520				3M
oming	S-228	73-2000	228	5.40	160-(bb)	In	L	1.62	1.62	1.62	312	312	343	45	HI	Ala	4.00	22.8	0.93x2.90	4	10.50	44.0	Y	2.18x1.50	7	2.62x1.93	2.62x2.46	abc	14 m.	1 1/2	N	724				3M
oming	S-3L	81-2800	268	5.58	160-(cc)	In	L	1.62	1.62	1.62	312	312	343	45	HI	Ala	4.00	22.8	0.93x2.90	4	10.50	44.0	Y	2.18x1.50	7	2.62x1.93	2.62x2.46	abc	14 m.	1 1/2	N	724				3M
oming	S-268	87-2500	268	5.58	174-1300	In	L	1.62	1.62	1.62	312	312	343	45	HI	Ala	4.00	22.8	0.93x2.90	4	10.50	44.0	Y	2.18x1.50	7	2.62x1.93	2.62x2.46	abc	14 m.	1 1/2	N	600				3M
oming	S-308	87-2500	268	5.58	174-1300	In	L	1.62	1.62	1.62	312	312	343	45	HI	Ala	4.00	22.8	0.93x2.90	4	10.50	44.0	Y	2.18x1.50	7	2.62x1.93	2.62x2.46	abc	14 m.	1 1/2	N	600				3M
oming	FCS	25-2500	95	5.75	67-1100	In	L	1.18	1.18	1.18	281	281	312	45	HI	CI	3.25	26.0	0.875x2.25	3	7.25	29.0	N	1.75x1.06	3	2.12x1.18	2.12x1.43	abce	18 m.	1 1/2	N	280	19	293	373	5
oming	FC	35-2000	133	5.60	92-1200	In	L	1.18	1.18	1.18	281	281	312	45	HI	CI	3.30	30.0	0.875x2.25	3	7.25	29.0	N	1.75x1.06	3	2.12x1.18	2.12x1.43	abce	18 m.	1 1/2	N	280	19	293	373	5
oming	XAH	37-2200	186	4.70	121-900	In	L	1.37	1.37	1.37	281	281	375	45	HI	CI	3.93	45.0	1.10x3.04	4	8.75	46.0	N	2.00x1.50	7	2.00x1.87	2.00x2.50	abode	18 m.	1 1/2	N	385	17	23	32	5
oming	62KA	68-2000	241	5.00	164-1100	In	L	1.31	1.18	1.18	281	281	312	45	HI	CI	4.09	42.0	0.875x2.25	4	8.75	46.0	N	2.00x1.50	7	2.00x1.87	2.00x2.50	abode	18 m.	1 1/2	N	385	17	23	32	5
oming	68B	68-2000	241	5.00	164-1100	In	L	1.31	1.18	1.18	281	281	312	45	HI	CI	4.09	42.0	0.875x2.25	4	8.75	46.0	N	2.00x1.50	7	2.00x1.87	2.00x2.50	abode	18 m.	1 1/2	N	385	17	23	32	5
oming	68B	68-2000	241	5.00	164-1100	In	L	1.31	1.18	1.18	281	281	312	45	HI	CI	4.09	42.0	0.875x2.25	4																

TRANSPORTATION Engineering SECTION

Formulas

VEHICLE SPEED

$$\text{MPH} = \frac{\text{RPM times D}}{336 \text{ times FGR}}$$

$$\text{RPM} = \frac{\text{MPH times 336 times FGR}}{D}$$

MPH = Miles Per Hour
RPM = Engine Revolutions per Minute
D = Effective Tire Diameter
FGR = Final Gear Ratio

GRADE ABILITY

GA = TE minus RR
GA = Grade Ability
TE = Tractive Effort
RR = Road Resistance minus .012 for Hard Surfaced Roads

TRACTIVE EFFORT

TE = in. lb. Torque times FGR times EFF
Divided by GVW times R
EFF = Efficiency minus .90 for all Rear Axles except Worm then .85
R = Rolling Radius
GVW = Gross Vehicle Weight
in. lb. Torque = 12 times Torque in lb. ft.

MAXIMUM TORQUE

Torque in lb.ft. = .65 times cu.in. Piston Displacement. (This is approximate and should be used only when actual torque is not known.)

PISTON DISPLACEMENT

Piston Displacement in cu.in. = B times B times .7854 times S times No. of Cylinders
B = Bore
S = Stroke

TORQUE AT PEAK HORSEPOWER

$$\text{Torque at Peak HP} = \frac{\text{HP times 5252}}{\text{RPM}}$$

MAXIMUM TORQUE

$$\text{Maximum Torque} = \frac{\text{Torque at Peak HP times 5}}{4}$$



AMA HORSEPOWER

$$\text{AMA HP} = \frac{B \text{ times } B \text{ times No. of Cyl.}}{2.5}$$

B = Cylinder Bore

FINAL GEAR RATIO

$$\text{FGR} = \frac{\text{GA times r times GVW}}{\text{T times .90}}$$

GA = Grade Ability
r = Effective Wheel Radius
GVW = Gross Vehicle Weight
T = Torque in in. lb.

Tire Sizes, Load Capacities and Pressures

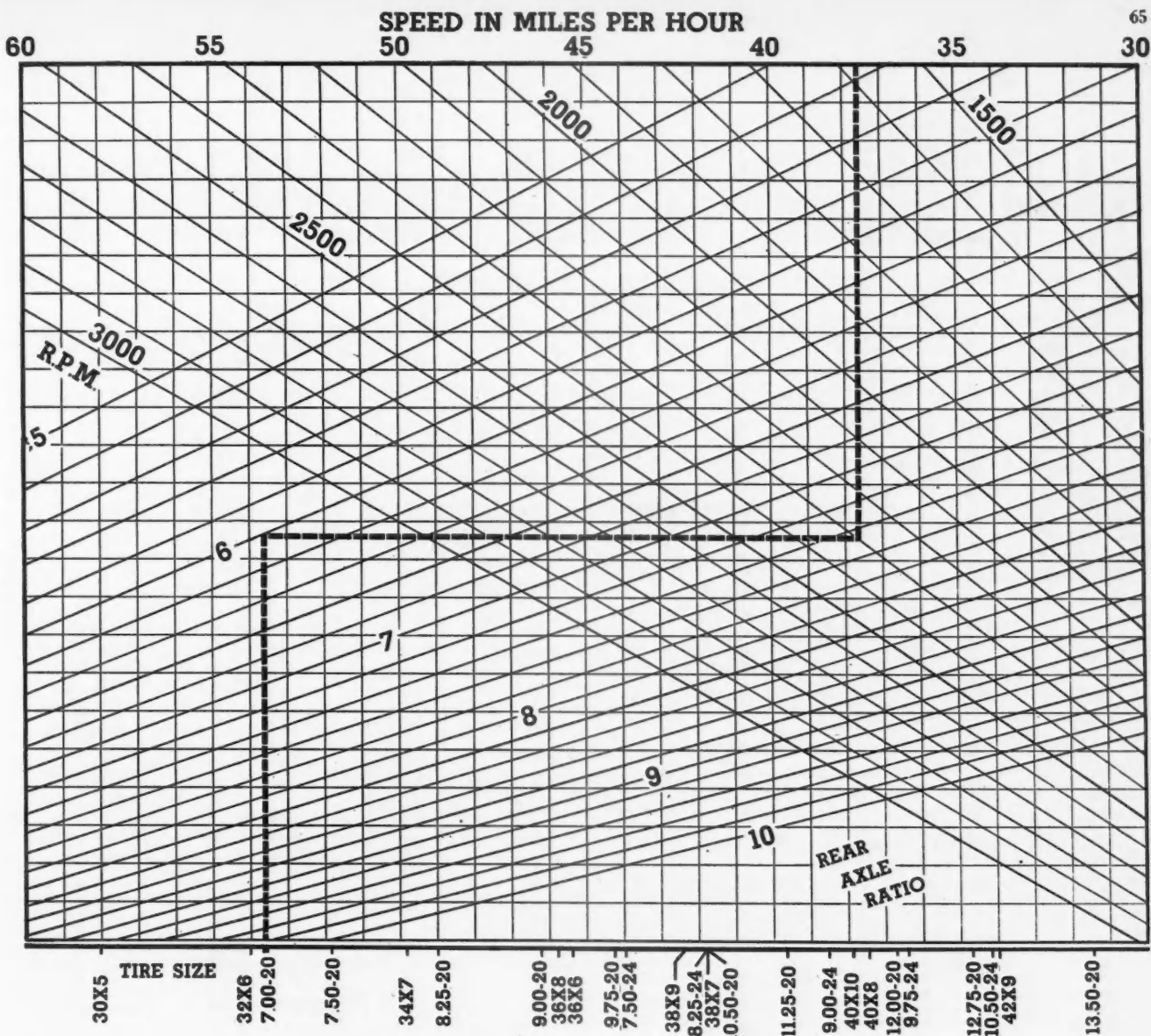
BALLOON TIRES

Tire Size	Maximum Weight Capacity (lb.)	Pressure Required for Maximum Capacity (lb.)	Tire Size	Maximum Weight Capacity (lb.)	Pressure Required for Maximum Capacity (lb.)
5.50/20	1225	45	9.75/15	3175	70
6.00/20	1400	45	9.75/18	3600	70
6.50/18	1550	50	9.75/20	3900	70
6.50/20	1700	50	9.75/22	4200	70
7.00/18	1800	55	9.75/24	4400	70
7.00/20	1950	55	10.50/18	4400	75
7.50/18	2025	55	10.50/20	4700	75
7.50/20	2200	55	10.50/22	5000	75

7.50/24	2500	55	10.50/24	5200	75
8.25/18	2450	60	11.25/20	5450	80
8.25/20	2650	60	11.25/22	5800	80
8.25/22	2850	60	11.25/24	6050	80
8.25/24	3025	60	12.00/20	6250	85
9.00/15	2650	65	12.00/24	6950	85
9.00/18	3000	65	12.75/20	7200	90
9.00/20	3250	65	12.75/24	8000	90
9.00/22	3500	65	13.50/20	8200	95
9.00/24	3650	65	13.50/24	9100	95

HIGH PRESSURE TIRES

30 x 5	1700	75	34 x 7	2800	85
34 x 5	1950	75	38 x 7	3200	85
32 x 6			36 x 8	3600	90
(8 ply)	1950	75	40 x 8	4000	90
32 x 6			38 x 9	4500	95
(10 ply)	2200	80	42 x 9	5000	95
36 x 6	2500	80	40 x 10	5500	100
32 x 7	2550	85	44 x 10	6000	100



TRUCK *Speed* CHART

IT WILL HELP YOU FIGURE THE FOLLOWING:

1. R.P.M. for a given truck speed.
2. Gear ratio for a given truck speed.
3. Tire size for a given truck speed.
4. Truck speed with other factors known.

THE accompanying chart will serve to determine the vehicle speed for any given engine speed when the tire size and rear-axle reduction ratio are known. The scale at the bottom of the chart represents the effective rolling diameters of the various tire sizes under

normal static load. From the point on the scale representing the tire size involved in the problem, one passes up vertically until intersecting the inclined line representing the rear-axle reduction ratio; then horizontally to the point of intersection with the line rep-

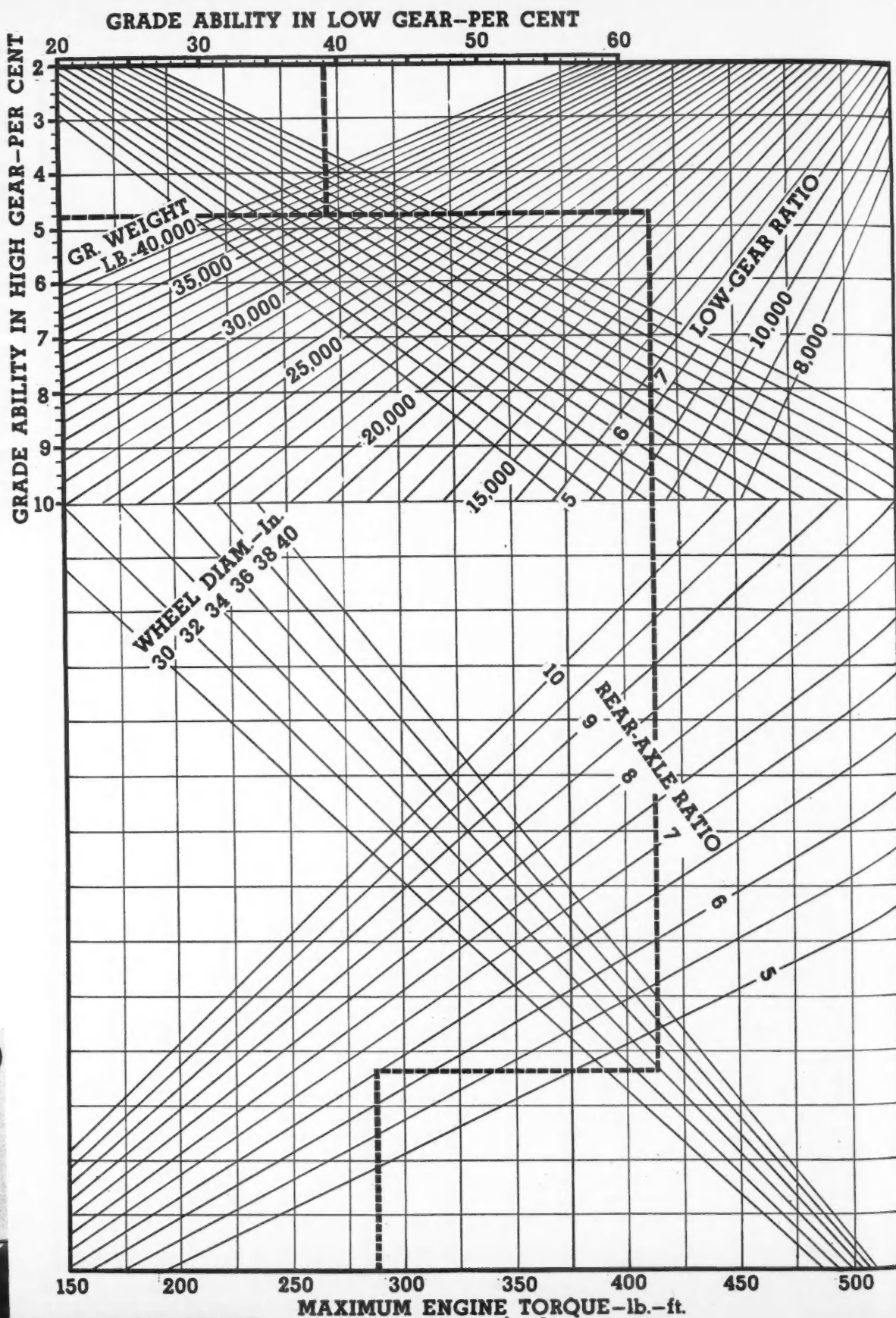
resenting the engine speed, and then vertically to the scale at the top, where the speed of the vehicle in m.p.h. is indicated. The chart also determines the engine speed for any given vehicle speed, tire size and rear-axle reduction ratio. To do this, one passes vertically from the point on the bottom scale representing the tire size, until intersecting the inclined line representing the rear-axle reduction ratio and then draws a horizontal line through this point of intersection. Next a vertical line is dropped from the point on the scale at the top representing the vehicle speed, and the point of intersection of this vertical line with the horizontal line previously drawn represents the engine speed.



.75
.80
.85
.90
.95
1.00

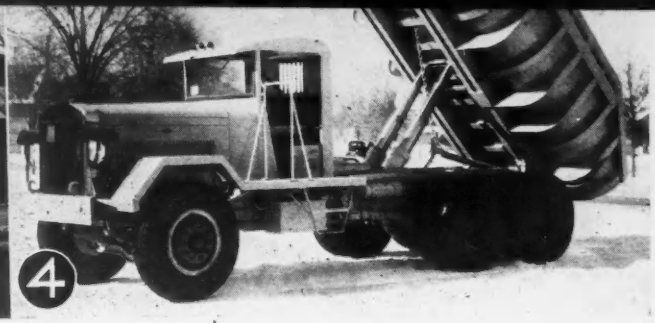
.85
.90
.95
1.00
1.05

1937



Illustrations are of (1) International with pole trailer; (2) Mack model CJ with Heil hoist and body; (3) Sterling chain-drive model FC 95 with Wood built body; (4) Hug equipped with Easton dump body (5) Ford





TRUCK Ability CHART

IT WILL HELP YOU FIGURE THE FOLLOWING:

1. Grade-climbing ability of truck with given load.
2. Engine torque required to climb a given grade.
3. Gear ratio required to climb a given grade.
4. Wheel diameter permissible to climb given grade.
5. Gross vehicle weight limit for a given grade.

THE accompanying chart makes it possible to determine the maximum grades which a truck of known engine torque, rear axle ratio, wheel diameter (including tire) and gross weight will climb in either high or low gear. The chart can also be used to determine the maximum engine torque necessary to climb a hill of any given grade if the rear axle ratio, transmission low gear ratio, gross weight and wheel size are known. The chart is easy to use and does not require a knowledge of mathematics or engineering. Simply follow instructions.

To find the per cent of grade that a truck of known engine torque will climb, locate, on the horizontal scale across the bottom of the chart, the

point corresponding to the maximum engine torque. From this point proceed vertically to the inclined line representing the rear axle ratio.

From there pass right or left until intersecting the inclined line representing wheel diameter. From this point proceed vertically upward to the point of intersection with the inclined line representing gross vehicle weight. From there pass horizontally to the left to the scale on the left-hand side, where the maximum per cent grade which may be climbed in high gear can be read.

If it is desired to know also the maximum grade which the truck will climb in low gear with its full rated load, it is only necessary to pass from the point of intersection of the inclined line rep-

resenting gross weight horizontally to the intersection of the inclined line representing low gear ratio. From this point proceed vertically upward to the scale across the top of the chart, where low gear grade ability may be read.

The dotted lines correspond to an example. What are the maximum grades that a truck, whose engine is capable of developing a torque of 288 lb. ft., will pull if the rear axle ratio is 6.5:1? The wheels are 34 in. diameter and the gross weight is rated at 19,000 lb.

Locate 288 lb. ft. on the torque scale across the bottom of the chart. Proceed vertically to the point of intersection with the line representing 6.5 rear axle ratio. Proceed right to the line representing 34-in. wheels and then vertically upward to the line representing 19,000 lb. gross weight. Horizontally left to the high gear scale gives a reading of 4.75 per cent grade. If the low gear reduction is 6.5:1 in passing horizontally to the left, stop at the intersection with the inclined line representing a low gear ratio of 6.5:1 and proceed vertically upward to the low gear scale, where the answer shows that the truck will climb a 39 per cent grade in low gear if it has the characteristics outlined in this example.

Both of these answers are correct. Any grade-ability problem can be worked out on this chart if the factors outlined in the example are known and they fall within the range of the chart. The range is wide enough for all practical purposes.

If the required hill-climbing ability is known and it is desired to determine the maximum engine torque required to give this hill-climbing ability, simply work the example backward.

Locate the required grade ability on the upper left-hand scale. If the grade ability in low gear is the starting point, start at the horizontal scale at the top of the chart and proceed from the intersection of the low-gear-ratio inclined line to the intersection of the gross weight inclined line, to the intersection of the wheel diameter inclined line, to the intersection of the rear axle ratio inclined line. From this last intersection proceed vertically downward to the engine torque scale. Here the torque in lb. ft. may be read off.

Refrigeration DATA

Thermal Conductivity of Insulating Materials

Thermal conductivity of various insulating materials per hour per square foot per degree Fahrenheit per inch of thickness.

Alrol (Alfol Insulation Co.).....	.28
Balsam Wool (Wood Conversion Co.).....	.246
Corkboard (Armstrong Cork Co.) 5.4 lb. per cu. ft. ....	.25
Corkboard (Armstrong Cork Co.) 7 lb. per cu. ft. ....	.27
Corkboard (Armstrong Cork Co.) 10.6 lb. per cu. ft. ....	.30
Corning Wool (Armstrong Cork Co.) 1 1/2 lb. per cu. ft. ....	.27
Corning Wool (Armstrong Cork Co.) 3 lb. per cu. ft. ....	.24
Dry-Zero blanket.....	.24
Dry-Zero Sealed.....	.24
Ferro-Therm (American Flange & Mfg. Co.).....	.228
Lata-Balsa (Balsa Wood Co.).....	.31

Carrying Temperatures of Commodities Transported in Trucks

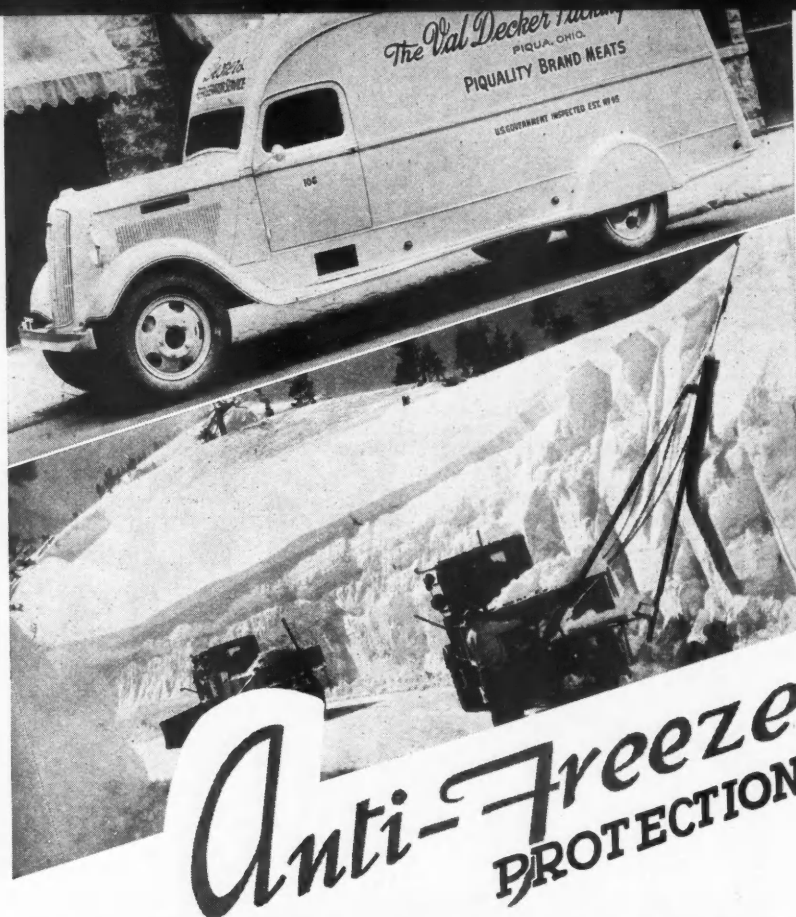
UNFROZEN			
VEGETABLES			
Asparagus.....	33-34	Oranges..... 35-45	
Beans (green).....	33-34	Peaches..... 35-40	
Beets.....	32-40	Pears..... 32-34	
Broccoli.....	32-34	Plums..... 32-36	
Cabbage.....	32-36	Raspberries..... 35-40	
Carrots.....	33-36	Strawberries..... 35-40	
Cauliflower.....	32-34		
Celery.....	32-34	MEATS	
Corn (green).....	36-38	Bacon..... 30-35	
Cucumbers.....	36-40	Beef (fresh)..... 32-40	
Lettuce.....	32-40	Eggs..... 33-36	
Onions.....	32-36	Fish (fresh)..... 32-40	
Peas (green).....	32-36	Lamb..... 32-36	
Potatoes.....	35-40	Mutton..... 32-36	
Potatoes (sweet).....	50-55	Oysters (shell)..... 30-35	
Radishes.....	32-36	Pork (fresh)..... 30-34	
Squash.....	33-36	Poultry..... 28-30	
Tomatoes.....	35-40	Veal..... 35-40	
DAIRY PRODUCTS			
		Butter..... 20-35	
		Cheese..... 35-40	
		Ice Cream..... 5-10	
		Milk (sweet)..... 32-36	
		Milk (butter)..... 32-40	
FROZEN FOODS			
		Eggs..... 10-15	
		Fish..... 10-20	
		Fruits in syrup..... 10-20	
		Meats..... 10-20	
		Vegetables..... 5-10	
FRUITS			
Apples.....	32-36		
Apricots.....	35-40		
Bananas.....	55		
Blackberries.....	36-40		
Cantaloupes.....	35-40		
Cherries.....	36-40		
Cranberries.....	33-36		
Gooseberries.....	36-40		
Grapefruit.....	32-36		
Grapes.....	32-36		
Lemons.....	40-45		

Courtesy Am. Sec. Refrigerating Engineers.

Desirable Wall Conditions

(Wall conductivities most generally desirable for handling various types of perishables).

Type of Truck	B.T.U. per hour per degree F. per square foot
Bakery, Candy and Bread Trucks.....	.16
Trucks for fresh and smoked meats.....	.12 to .10
Trucks for sausage and fresh cut meats.....	.10 to .08
Ice cream, quick-frozen food trucks.....	.06 to .05
Trucks for solid carbon-dioxide transport....	.025



TEMPERATURE EXPECTED (FAHR.)

COOLING SYSTEM CAPACITY (Quarts)	20° ABOVE			10° ABOVE			ZERO			10° BELOW			20° BELOW			30° BELOW		
	*ALCOHOL (Sp. Gr. .8780)	E. GLYCOL (Sp. Gr. 1.20)	METHANOL 100%	*ALCOHOL (Sp. Gr. .8780)	E. GLYCOL (Sp. Gr. 1.20)	METHANOL 100%	*ALCOHOL (Sp. Gr. .8600)	E. GLYCOL (Sp. Gr. 1.050)	METHANOL 100%	*ALCOHOL (Sp. Gr. .8600)	E. GLYCOL (Sp. Gr. 1.050)	METHANOL 100%	*ALCOHOL (Sp. Gr. .8600)	E. GLYCOL (Sp. Gr. 1.050)	METHANOL 100%	*ALCOHOL (Sp. Gr. .8200)	E. GLYCOL (Sp. Gr. 1.070)	METHANOL 100%
6	1 1/4	1	3/4	1 1/4	1 1/4	1 1/4	2 1/2	2 1/2	1 1/4	2 1/2	2 1/2	2	3	2 1/2	3 1/2	3 1/2	3	2 1/2
7	1 1/4	1 1/4	3/4	2 1/4	1 1/4	1 1/4	2 1/2	2 1/2	2	3 1/4	3	2 1/2	3 1/2	3 1/2	2 1/2	4 1/4	3 1/2	3
8	1 1/4	1 1/2	1	2 1/2	2	1 1/4	3 1/4	2 1/2	2 1/4	4	3 1/4	2 1/2	4	3 1/2	3	5	4	3 1/2
9	1 1/4	1 3/4	1	2 3/4	2 1/4	2	3 3/4	3	2 3/4	4 1/4	3 1/2	3	4 1/4	4	3 3/4	5 1/2	4 1/2	3 1/2
10	2	1 3/4	1 1/4	3	2 3/4	2	4	3 3/4	2 3/4	4 1/2	4 1/2	4	5 1/4	4 1/2	3 3/4	6	5	4 1/2
11	2 1/4	2	1 1/2	3 1/2	2 3/4	2 1/4	4 1/2	3 3/4	3	5 1/4	4 1/2	3 1/2	5 1/2	5	4 1/2	6 1/2	5 1/2	4 1/2
12	2 1/2	2 1/4	1 3/4	3 3/4	3	2 1/2	4 1/2	4 1/2	3 1/2	5 1/2	4 1/2	4	6 1/2	5 1/2	4 1/2	7 1/2	6	5
13	2 1/2	2 1/2	1 3/4	4	3 1/4	2 3/4	5 1/2	4 1/2	3 1/2	6	5 1/2	4 1/2	7	6	5	8	6 1/2	5 1/2
14	2 3/4	2 3/4	1 3/4	4 1/2	3 1/2	3	5 1/2	5 1/2	3 1/2	6 1/2	5 1/2	4 1/2	7 1/2	6 1/2	5 1/2	9	7	6
15	3	2 3/4	2	4 1/2	3 1/2	3	6	5 1/2	4	7	6	5	8	6 1/2	5 1/2	9 1/2	7 1/2	6 1/2
16	3 1/4	2 3/4	2	4 3/4	4	3 1/2	6 1/2	5 1/2	4 1/2	7 1/2	6 1/2	5 1/2	8 1/2	7 1/2	6	10	8	6 1/2
17	3 1/2	3	2 1/2	5 1/4	4 1/2	3 1/2	6 1/2	6	4 1/2	8	7	6 1/2	9	7 1/2	6 1/2	10 1/2	8 1/2	7 1/2
18	3 1/2	3 1/4	2 1/2	5 1/2	4 3/4	3 1/2	7 1/2	6 1/2	4 1/2	8 1/2	7 1/2	6	9 1/2	8	6 1/2	11	9	7 1/2
19	4	3 1/2	2 3/4	5 3/4	4 3/4	4	7 1/2	6 1/2	5	9	7 1/2	6 1/2	10	8 1/2	7 1/2	11 1/2	9 1/2	8
20	4	3 1/2	2 3/4	6	5	4 1/2	8	7	5 1/2	9 1/2	8	6 1/2	10 1/2	9	7 1/2	12	10	8 1/2
21	4 1/4	3 3/4	2 3/4	6 1/4	5 1/4	4 1/2	8 1/2	7 1/2	5 1/2	10	8 1/2	6 1/2	11	8 1/2	8	13	10 1/2	9
22	4 1/2	4	2 3/4	6 1/2	5 1/2	4 1/2	8 1/2	7 1/2	6	10 1/2	8 1/2	7 1/2	11 1/2	10	8 1/2	13 1/2	11	9 1/2
23	4 1/2	4 1/2	3	7	5 1/2	4 1/2	9 1/2	8	6 1/2	11	9 1/2	7 1/2	12	10 1/2	8 1/2	14	11 1/2	9 1/2
24	4 1/2	4 1/2	3	7 1/4	6	5	9 1/2	8 1/2	6 1/2	11 1/2	9 1/2	8	12 1/2	10 1/2	9	14 1/2	12	10
25	5	4 1/2	3 1/4	7 1/2	6 1/4	5 1/2	10	8 1/2	6 1/2	11 1/2	10	8 1/2	13	11 1/2	9 1/2	15	12 1/2	10 1/2
26	5 1/4	4 1/2	3 1/4	7 3/4	6 3/4	5 1/2	10 1/2	9	7	12	10 1/2	8 1/2	13 1/2	11 1/2	9 1/2	16	13	11
27	5 1/2	5	3 1/2	8 1/4	6 1/2	5 1/2	11	9 1/2	7 1/2	12 1/2	11	8 1/2	14	12	10 1/2	16 1/2	13 1/2	11 1/2
28	5 1/2	5	3 1/2	8 1/2	7	5 1/2	11 1/2	9 1/2	7 1/2	13	11 1/2	8 1/2	14 1/2	12 1/2	10 1/2	17	14	11 1/2
29	5 1/2	5 1/2	3 1/2	8 1/2	7 1/2	6	11 1/2	10	8	13 1/2	11 1/2	8 1/2	15	13	11	18	14 1/2	12 1/2
30	6	5 1/2	3 1/2	9	7 1/2	6 1/2	12	10 1/2	8 1/2	14	12	9 1/2	15 1/2	13 1/2	11 1/2	18 1/2	15	12 1/2
31	6 1/4	5 1/2	4	9 1/2	7 3/4	6 1/2	12 1/2	10 1/2	8 1/2	14 1/2	12 1/2	10	16	14	11 1/2	19	16 1/2	13
32	6 1/2	5 1/2	4	9 1/2	8	6 1/2	13	11 1/2	8 1/2	15	13	10 1/2	16 1/2	14 1/2	12	19 1/2	16	13 1/2

PROCEDURE—Find cooling system capacity of vehicle in question. Then refer to the corresponding number in the first column. Read across the table to the column of expected temperature and there will be found the amount of each anti-freeze required. All quantities are in quarts. Specific gravity readings of resultant solutions are given at 60 deg. Fahr. *Alcohol listed corresponds to 188 proof. If alcohol of 200 proof is used, reduce amounts given by 10 per cent.



TRUCK Regulation SECTION



Illustrations are of (opposite page top) Dodge with Giffel body and Dry-Zero insulation; tank truck at top of this page is a Mack equipped with Trucktor third axle and below it is a Ford with a Warford unit. Top right: Model 704 White. Above—Federal powered by a Hercules diesel. Trailer is a Fruehauf

The Federal Motor Carrier Act, 1935

Editor's Note: This is not an analysis. It is the law itself, edited to include those portions which operators will find necessary in order to understand and comply with its provisions.

POLICY AND JURISDICTION

Sec. 202. (a) It is hereby declared to be the policy of Congress to regulate transportation by motor carriers in such manner as to recognize and preserve the inherent advantages of, and foster sound economic conditions in, such transportation and among such carriers in the public interest; promote adequate economical, and efficient service by motor carriers, and reasonable charges therefor; improve the relations between, and coordinate transportation by and regulation of, motor carriers and other carriers; develop and preserve a highway transportation system properly adapted to the needs of the commerce of the United States and of the national defense.

(b) The regulation of such transportation is hereby vested in the Interstate Commerce Commission.

(c) Nothing in this part shall be construed to affect the powers of taxation of the several States or to authorize a motor carrier to do an intrastate business on the highways of any State, or to interfere with the exclusive exer-

cise by each State of the power of regulation of intrastate commerce by motor carriers on the highways thereof.

DEFINITIONS

Sec. 203. (a) The term "interstate commerce" means commerce between any place in a State and any place in another State or between places in the same State through another State, whether such commerce moves wholly by motor vehicle or partly by motor vehicle and partly by rail, express, or water.

The term "foreign commerce" means commerce between any place in the United States and any place in a foreign country, or between places in the United States through any foreign country, whether such commerce moves wholly by motor vehicle or partly by motor vehicle and partly by rail, express, or water.

The term "common carrier by motor vehicle" means any person who or which undertakes, whether directly or by a lease or any other arrangement, to transport passengers or property, or any class or classes of property, for the general public in interstate or foreign com-

merce by motor vehicle for compensation, whether over regular or irregular routes, including such motor vehicle operations of carriers by rail or water, and of excess or forwarding companies, except to the extent that these operations are subject to the provisions of Part I.

The term "contract carrier by motor vehicle" means any person, not included under the above paragraph, who or which, under special and individual contracts or agreements, and whether directly or by a lease or any other arrangement, transports passengers or property in interstate or foreign commerce by motor vehicle for compensation.

The term "broker" means any person not included in the term "motor carrier" and not a bona fide employee or agent of any such carrier, who or which, as principal or agent, sells or offers for sale any transportation subject to this part, or negotiates for, or holds himself or itself out by solicitation, advertisement, or otherwise as one who sells, provides, furnishes, contracts, or arranges for such transportation.

(b) Nothing in this part, except the provisions of Section 204 relative to qualifications and maximum hours of service of employees and safety of operation or standards of equipment, shall be construed to include motor vehicles employed solely in transporting school children and teachers to or from school; or motor vehicles controlled and operated by any

(TURN TO PAGE 98, PLEASE)

STATE Size &

STATE	SIZE RESTRICTIONS							GROSS WEIGHT		(See NOTE) PRACTICAL GROSS WEIGHT LIMITS (In thousands of pounds)													
	Width (In Inches)	Height (In Feet)	LENGTH			Number of Trailers	Minimum Tandem Axle Spacing	(LEGAL LIMITS)		(Where No Distinction Is Made Between Pneumatic and Solid Tire Limits, Below Limits Apply to Both)													
			Single Unit	Tractor Semi-Trailer	Other Combinations			Per Inch of Tire Width	Per Axle (1000 lb.)	T 4-Wheel Single Unit	T 6-Wheel Single Unit	4-Wheel Tractor 2-Wheel Semi-T.	4-Wheel Tractor 4-Wheel Semi-T.	6-Wheel Tractor 4-Wheel Semi-T.	4-Wheel Tractor 4-Wheel Trailer	4-Wheel Tractor 6-Wheel Trailer	6-Wheel Tractor 4-Wheel Trailer	6-Wheel Tractor 6-Wheel Trailer	4-Wheel Tractor 2-Wheel Semi-T. 4-Wheel Trailer	4-Wheel Tractor 4-Wheel Semi-T. 4-Wheel Trailer	6-Wheel Tractor 4-Wheel Semi-T. 4-Wheel Trailer		
Ala.	96	12	30	40	NP	1/2	NS	NR	NR	20	20	20	20	20	NP	NP	NP	NP	NP	NP	NP	NP	NP
Ariz.	96	14 1/2	33	85	85	1 1/2	NS	700	18	22	34	40	44	56	44	56	56	68	62	62	62	90	
XV Ark.	96	a 12 1/2	35	45	45	1 or 1/2	NS	Table	Table	24.9-IW 18.7-J	36.6-IW 30.8-J	41.3-IW 31-J	52.9-IW 43.2-J	53.9-I 53.9-J	53.9-I 43.2-J	53.9-I 53.9-J	53.9-I 53.9-J	53.9-I 53.9-J	NP	NP	NP	NP	
ZX Cal.	96	13 1/2	33	60	60	NR	40	NS-P 600-S	17	22	34	34	48	60	44	56	56	68	56	68	68	68	
X Colo.	96 102 b	12 1/2	35	40	50	1 1/2	40	NS-P 500-S	18-I 16-J	24	34	50.4	50.4	50.4	48	58	58	63	63	63	63	63	
Conn.	96 c 102	NS	40	40	NP	1/2	NS	NS-P 800-S	NS	32-P 26-S	40-P 26-S	40-P 26-S	40-P 26-S	40-P 26-S	NP	NP	NP	NP	NP	NP	NP	NP	
Del.	96	12 1/2	33	60	60	1 1/2	NS	700	18-P 16-S r	26-P 22-S	36-PN 22-S	40-P 38-S	40-P 38-S	40-P 38-S	48-P 44-S	48-P 44-S	58-P 44-S	58-P 44-S	62-P 60-S	62-P 60-S	62-P 60-S	62-P 60-S	
ZV D. C.	96	12 1/2	33	33	85	NR	40	800	24.8 15.4 s	30.8-P	39.6-P	39.6-P	39.6-P	39.6-P	61.6-P	70.4-P	70.4-P	79.2-P	70.4-P	70.4-P	70.4-P	79.2-P	
Z Fla.	84	12	35	35	45	1 1/2	NS	550	NR	16-PQ 8-S	16-PQ 8-S	19-PQ 9.5-S	32-PQ 11-S	32-PQ 11-S	32-PQ 8-S	32-PQ 11-S	32-PQ 11-S	32-PQ 11-S	32-PQ 12.5-S	32-PQ 14-S	32-PQ 14-S	32-PQ 14-S	
Ga.	96	12 1/2	30 e 35 f	85 e 45 f	85 e 45 f	1 1/2	NS	800	17.6	22 12.5-PL	39.6 12.5-PL	39.6 12.5-PL	39.6 12.5-PL	39.6 12.5-PL	44 25-PL	44 25-PL	44 25-PL	44 25-PL	61.6 25-PL	61.6 25-PL	61.6 25-PL	61.6 25-PL	
VX Idaho	96	14	35	35	65	1/2 or 1	NS	800 o	16	32-W	40.2	40.2	40.2	40.2	50	50	50	50	50	50	50	50	
V Illinois	96	NS	35	35	40	1 1/2	NS	800	16	24 E	40	40	40	40	56	56	72	72	72	72	72	72	
X Indiana	96	12	33	40	40	1 1/2	40	800-P 640-S	16-P 12-S	32-PW 24-S	39-P 36-S	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	43.2-P	
X Iowa	96	12	30 33 g	45	45	NR	40	NS	16-P 14-S	32-PW 28-S	33.9-P 33.9-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S	40.7-P 40.7-S		
V Kansas	96	12	35	50	50	1 or 1/2	NS	NS	16 18.5 t	24 28 t	34	40 46.5 t	48 56 t	58 62 t	48 56 t	58 62 t	58 62 t	68 68 t	NP	NP	NP	NP	
Ky.	96	11 1/2	26 1/2	30	NP	1/2	NS	800	NR	18	18	18	18	18	NP	NP	NP	NP	NP	NP	NP	NP	
La.	96	12 1/2	33 i	45 i	45 i	1 or 1/2	NS	600	NR	7-PL F	7-PL F	10-PL	10-PL	10-PL	14-PL F	14-PL F	14-PL F	14-PL F	NP	NP	NP	NP	
Maine	96	12 1/2	36 h	36	62	1 or 1/2	NS	600	18-P 13.5-S	24-PG 20-S	36	36	36	36	36	36	36	36	NP	NP	NP	NP	
Mid.	96	NR	NR	NR	NR	1 n	NS	NR-P 650-S	NR	25 H	40 H	40 H	40 H	40 H	50 H	65 H	65 H	80 H	65 H	65 H	80 H	80 H	
Mass.	96 102 b	NR	33 j 28	40	NS	1 or 1/2	NS	800	NR	30-P 28-S	40	40	40	40	31-P 29-S	31-P 29-S	41	41	NP	NP	NP	NP	
p Mich.	96 102 b	12 1/2	35	50	50	1 1/2	NS	700	18-P 16-S	36-PW 32-S	44-PW 39.2-S	54-PW 48-S	62-PW 55.2-S	70-PW 62.4-S	72-PW 64-S	80-PW 71.2-S	80-PW 71.2-S	88-PW 78.4-S	90-PW 80-S	98-PW 87.2-S	114-PW 101.6-S		
Minn.	96	12 1/2	40	40	40	1 1/2	NS	NR	18-P u 14.4-S	36-PW 28.8-S	42-PW 33.6-S	54-PW 43.2-S	60-PW 48-S	66-PW 52.8-S	42-PW 34.8-S	42-PW 34.8-S	48-PW 39.6-S	48-PW 39.6-S	60-PW 49.2-S	68-PW 54-S	72-PW 58.8-S		
Z Miss.	96	12 1/2	33	33	50	NR	NR	700	12	22 14-PL	22 14-PL	22 14-PL	22 14-PL	22 14-PL	30 28-PL	30 28-PL	30 28-PL	30 28-PL	30 28-PL	30 28-PL	30 28-PL	30 28-PL	
Mo.	96	12 1/2	33	40	40	1 or 1/2	NS	600	16	24	24	38	38	38	48	48	48	48	NP	NP	NP	NP	
Z Mont.	96	14 1/2	33	60	60	1 1/2	NS	800	16.6 v	24	34	40.8	48	50.8	48	58	58	68	64.8	72	92		
Neb.	96	12	35	35	45	1 1/2	NS	NS	16	32-W	32	32	32	32	48	48	48	48	48	48	48	48	
Nev.	96	13 1/2	60	60	60	NR	42	600	NR	25	38	38	38	38	50	63	63	76	63	63	101		
Z N. H.	96	NR	30	45	45	NR	NS	750	15	23	23 K	23 K	46	23	46	46	46	46	58	69	69		
Z N. J.	96	12 1/2	35 U 28	45 56U	50 56U	1 or 1/2	NS	Table	Table	30	40 U 30	60	60	60	60	60	60	60	NP	NP	NP	NP	
VX N. M.	96 100 b	12 1/2	35	45	45	1 or 1/2	40	700	18-I 16-J	36-I W 32-J	40.2-I 40.2-J	46.2-I 46.2-J	46.2-I 46.2-J	46.2-I 46.2-J	46.2-I 46.2-J	46.2-I 46.2-J	46.2-I 46.2-J	46.2-I 46.2-J	NP	NP	NP	NP	
X N. Y.	96 106 b	13	35	65 k	65 k	1 or 1/2	46	640-S 800-P	22.4-P 17.9-S	36-P 26.8-S	44-P 35.2-S	58.4-PW 46.7-S	72-PW 57.6-S	72.8-P 64-S	72-PW 57.6-S	72.8-P 64-S	72.8-P 64-S	72.8-P 64-S	NP	NP	NP	NP	
N. C.	96	12 1/2	35	45	45	1 or 1/2	NS	600	18-I 16-J	20 L	40 L	40 L	40 L	40 L	40 L	40 L	40 L	NP	NP	NP	NP		
Z N. D.	96	12 1/2	40	40	40	1 or 1/2	NS	800	16	32 W	35	35	35	35	35	35	35	35	NP	NP	NP	NP	
Ohio	96	12 1/2	35	40	60	NR	NS	650 o	18-P 16-S	24-P 20-S	24-P 20-S	42-P 36-S	42-P 36-S	42-P 36-S	48-P 40-S	48-P 40-S	48-P 40-S	48-P 40-S	66-P 56-S	66-P 56-S	66-P 56-S	66-P 56-S	
Okla.	96	12 1/2	45	45	45	1 1/2	NS	600	NS	24	24	31	31	31	48	48	48	48	55	55	55	55	

Weight LIMITS

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STATE	SIZE RESTRICTIONS							GROSS WEIGHT		(See NOTE)	PRACTICAL GROSS WEIGHT LIMITS												(In thousands of pounds)	
	Width (In Inches)	Height (In Feet)	LENGTH			Number of Trailers	Minimum Tandem Axle Spacing	(LEGAL LIMITS)		(Where No Distinction Is Made Between Pneumatic and Solid Tire Limits, Below Limits Apply to Both)														
			Single Unit	Tractor Semi-Trailer	Other Combinations			Per Inch of Tire Width	Per Axle (1000 lb.)	T 4-Wheel Single Unit	T 6-Wheel Single Unit	4-Wheel Tractor 2-Wheel Semi-T.	4-Wheel Tractor 4-Wheel Semi-T.	6-Wheel Tractor 4-Wheel Semi-T.	4-Wheel Truck 4-Wheel Trailer	4-Wheel Truck 6-Wheel Trailer	6-Wheel Truck 4-Wheel Trailer	6-Wheel Truck 6-Wheel Trailer	4-Wheel Tractor 2-Wheel Semi-T. 4-Wheel Trailer	4-Wheel Tractor 4-Wheel Semi-T. 4-Wheel Trailer	6-Wheel Tractor 4-Wheel Semi-T. 6-Wheel Trailer			
Z XV Ore.	96	11	35	35	50	NR	40	600	17 w 16 x	34 w 32 x W	46.9 w 46.9 x	46.9 w 46.9 x	46.9 w 46.9 x	46.9 w 46.9 x	54	54	54	54	54	54	54	54	54	54
Pa. Z	96	14½	33	70	70	1½	NS	800	18 y	26 H	36 H	39	39	39	52	62	62	62	62	65	65	65	65	65
R. I.	102	12½	NR	85	85	2	NS	800	22.4	32-P 28-S	40	40	40	40	64-P 56-S	72-P 68-S	72-P 68-S	80	72-P 68-S	72-P 68-S	80	80	80	80
S. C.	90	12½	35	35	NP	½	NS	NR	10	20 W	20	20	20	20	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
S. D.	96	11½	28	38	38	1 or ½	NS	600	16	20	24	30	30	30	30	30	30	30	30	NP	NP	NP	NP	NP
Tenn.	96	12	27	35	35	1 or ½	NS	18	18	18	18	18	18	18	18	18	18	18	NP	NP	NP	NP	NP	
Tex.	96	12½	35	45	45	1 or ½	NS	600	NR	7-PL F	7-PL F	7-PL F	7-PL F	7-PL F	7-PL F	7-PL F	7-PL F	7-PL F	NP	NP	NP	NP	NP	
Utah X	96	14½	45	60	60	1 or ½	NS	800	18 -P 13.5-S	36-P 27-SW	48.4-P 40.5-S	55.2-P 41.4-S	55.2-P 41.4-S	55.2-P 41.4-S	64.4-S	64.4-S	64.4-S	64.4-S	NP	NP	NP	NP	NP	
Vt.	96	12	50	50	50	1 or ½	NS	600	15	25 M 16	30 M 16	35 M 16	35 M 16	35 M 16	35 M 16	35 M 16	35 M 16	35 M 16	NP	NP	NP	NP	NP	
Va. V	96	12½	33	45	45	1 or ½	NS	650	16	24	35	35	35	35	35	35	35	35	NP	NP	NP	NP	NP	
Wash. Z	96	NR	35 85 j	85	85	1 or ½	NS	800	18.5 A	24	34	42.5	50	54	48	54	54	68	NP	NP	NP	NP	NP	
W. Va. X	96	12½	35	45	45	NR	NS	NS	18-PB 14-S	36-P W 28-S	54-P W 42-S	54-P W 43.2S	72-P W 57.6S	90-P W 72-S	90-P W 57.6S	90-P W 72-S	90-P W 72-S	102.4-P 86.4-S	90-P W 72-S	102.4-P 86.4-S	102.4-P 102.4-S	102.4-P 102.4-S	102.4-P 102.4-S	
Wisc. V	96 d	12½	33	45	45	1 or ½	NS	800	19-C 12-D	24-C 15-D	36-C 22.5-D	43-C 27-D	48-C 30-D	60 -C 37.5-D	60 -C 37.5-D	60 -C 37.5-D	60 -C 37.5-D	72-C 45-D	NP	NP	NP	NP	NP	
Wyo. X	96	12½	40	45	45	NR	NS	800	18	36 W	43.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	46.2	

- a—May exceed, when solids changed to pneumatics.
b—At rear tires, when solids changed to pneumatics.
c—Regulated “for hire” vehicles.
d—104 inches for urban buses.
e—Permissible length of private vehicles.
f—Permissible length of “for hire” vehicles.
g—Buses under Railroad Commission jurisdiction.
h—Trailers are limited to 28 feet.
i—Exclusive of bumpers.
j—Single units with over 2 axles.
k—Permitted until February 1, 1938.
l—When transporting property to or from receiving or loading point of a common carrier—55 feet.
n—NR—when operated under 10 miles per hour.
o—Graduated according to tire width.
p—13,000 lbs. on tandem axles 3 ft. 6 in. apart; applies June 1 to February 28; differs with season.
q—500 lbs. when total tires under 30 inches wide.
r—Permissible weight on tandem axles.
s—Permissible on axles spaced under 12 feet.
t—Dual tires over 8 inches wide.
u—12,000 lbs. when axle spaced under 8 feet apart.
v—13,000 lbs. on 6-wheeled vehicles.
w—Permissible weight on paved highways.
x—Permissible weight on unpaved highways.
y—16,500 lbs. on rear, 8,000 lbs. on front axle of 6-wheeled vehicle.
z—9,000 lbs. when axle spaced under 8 feet apart.

Table—There is a table of axle weights based upon tire widths.
NP—Not permitted. P—Pneumatic tires.
NR—No restriction. PL—Pay load.
NS—Not specified. S—Solid tires.

- A—On 2-axle truck or semi-trailer; 13,000 lbs. on trucks or 12,000 lbs. on trailers with over 2-axles.
B—In “Industrial Areas”—varies for different “areas.”
C—Permissible on “Class A” highways.
D—Permissible on “Class B” highways.
F—Double above when transporting property to or from receiving or loading point of a common carrier.
G—27,000 lbs. with dual tires—lower for solids.
H—Maximum shown—gross depends on chassis weight.
I—Permissible on balloon tires.
J—Permissible on other than balloon tires.
K—May exceed on designated highways with permit.

NOTE

Except when shown in shaded squares or when followed by the letter “W”, the above gross weight limits are the limits fixed by state law.

When shown in shaded squares the above limits are computations made by the National Highway Users Conference to show what it considers to be practical gross weights where gross weights are arrived at by application of one of the formulae shown below under Footnote “X”. In making these computations, wheel base was arrived at by deducting 8 ft. total over-hang front and rear from permissible overall length of unit or combination; tandem axles were considered to be a minimum permissible distance apart; Arkansas calculations include ¾% permissible axle over-load and the H-20 bridge formula was used in West Virginia. When actual over-hang is less than 8 ft. additional gross weight will be possible.

When followed by the letter “W”, the limits shown are maximum possible weights where gross weight is determined by permissible axle weight. These limits are possible only when each axle carries a gross weight equal to the permissible axle limit as shown. Actual gross weight in any case will be reduced by whatever amount any axle fails to reach the maximum axle weight as shown above.

- L—Under Corporation Commission—buses, 15,000 lbs. and trucks or trailers 18,000 lbs. gross.
M—On state highways.
N—38,000 lbs. with pneumatic tires, 3 axles, 2 hubs and brakes on each hub.
Q—Different limits for “for hire” vehicles.
T—With the following exceptions full trailers are permitted the same gross weight as other single units:—
Ala., Conn., Ky., S. C.—Full trailers prohibited.
Del.—Trailers limited to 22,000 lbs. gross.
Ill.—All trailers limited to 32,000 lbs. gross.
Mass.—Trailers limited to 1,000 lbs. capacity.
Minn.—Trailers limited to 6,000 lbs. gross.
Nebr.—All trailers limited to 16,000 lbs. gross.
Weight of trailers is limited by axle limitations and formula, in states determining gross weight by formula.
U—6-wheelers manufactured after January 1, 1935.
U1—Till January 1, 1941 for combinations manufactured prior to January 1, 1935.
V—Solid tires prohibited.
V1—Solid tires prohibited except on property carrying vehicle operating at 10 miles per hour or less.
W—Maximum gross when all axles carry maximum load—See “Note.”
X—States where gross weight is determined by formula:—

- Ark.—650-700 (L plus 40) 2 or more consecutive axles and any unit or combination.
Cal.—1750 (L plus 8) only applies to combinations.
Colo.—700 (L plus 40) semi-trailers.
Idaho—600 (L plus 40) any unit or combination.
Ind.—600 (L plus 40) 2 or more consecutive axles and any unit or combination.
Iowa—450 (L plus 53-1/3) any unit or combination.
N. M.—600 (L plus 40) 2 or more consecutive axles and any unit or combination.
N. Y.—750 (L plus 40) 3 or more consecutive axles and any unit or combination.
Ore.—700 (L plus 40) any unit or combination.
Utah—700 (L plus 40) any unit or combination.
W. Va.—1330-1000-670 (L plus 40) applies to highways dependent on type of bridges therein.
Wyo.—800 (L plus 40) 2 or more consecutive axles and any unit or combination.

Z—Comments and Weight Chart

- Cal.—28,000 lbs. permitted 4-wheeled vehicles when axle spacing is 13 feet or more.
D. C.—Solid tires, when permitted, allowed 10% less than pneumatics.
Fla.—18,000 lbs. with power brakes and 6 tires. “For hire” vehicle weights and sizes are not shown. (Solid tire “for hire” vehicles not permitted.)
Mo.—Sizes and weights in cities of 75,000 or over are not shown.
Miss.—No tags are issued for over 10,000 lbs. capacity.
Mont.—8,400 lbs. axle weight for 4-wheeled vehicles where axles are less than 8 feet apart.
Nev.—Regulated carriers are permitted a maximum width of 98 inches.
N. H.—Buses are allowed single unit length of 33 feet.
N. J.—Buses have detailed size restrictions. (See our size and weight book—page 71.)
N. D.—Only one semi-trailer permitted when used commercially.
Ore.—Special permit will permit maximum height of 12 ft. 6 in.
Pa.—38 in. minimum axle spacing between two rear axles of 6-wheeler.
Wash.—Detailed table for axle spacing will be found on page 118 of NHUC Size and Weight Book.

DRIVERS' Hours OF SERVICE

State Laws and Commission Rulings

State	Vehicles Affected	LIMIT OF HOURS ON DUTY		
		When Consecutive	When Not Consecutive (Hrs. Period in Allowed)	Min. Off Duty Hrs.
Ala.	Common & Contract.	8	8 in 12	8
Ariz.	Motor and Private Property Carriers.	10	10 in 24	8
Ark.	All Carriers*	12	14(2) in 24	8
Calif.	Pass. Com. Carriers.	10	10 in 15	9
	Prop. Com. Carriers.	10	10 in 15	9
	Other For-Hire Pass. Carriers*	10	10 in 15	8
	Other Property Transporters*	12	12 in 15	8
Colo.	Common Carriers*	10	10 in 24	8
Conn.	Commercial and Public Service	12	16(8) in 24(3)	8
Del.	Commer. (Tr. & Bus)	8*	16 in 24	..
D. of C.	For-hire Buses over Regular Routes	12	..	8
Fla.	For-Hire	12(9)	..	8
Ga.	For-Hire Carriers	10	14 in 24	10
Idaho	Transportation Companies (Common)*	8	10 in 24	..
Ill.	Common Carriers	10	10 in 16	8
Ind.	Com. and Contract*	8	16 in 24	..
Iowa	For-Hire*	12	12 in 24	8
Kan.	Com., Cont., Private.	12	14 in (2)	..
Ky.	Com. and Contract	12	16(8) in 24(3)	8
La.	Property For-Hire	12	No Limitations	8
Mo.	Motor Buses	10	10 in 16	..
Mich.	Property For-Hire	12	16(8) in 24(3)	8
	Com. and Contract*	12	12 in 24(4)	10
	Private Trucks*	14	14 in 24(4)	10
Minn.	For-Hire Trucks*	12	16 in 24	..
Miss.	Tr., Bus Operators*	12	16 in 24	..
Mo.	All Carriers*	10	10 in 20(5)	..
Mont.	Motor Carriers*	10	10 in 24	8
	Buses	8	8 in 24	12
Neb.	Motor Carriers	12	12 in 21	..
Nev.	For-Hire*	12	12 in 15	8
N. H.	For-Hire Trucks	12	16(8) in 24(3)	8
N. J.	Commer. (Tr., Bus.)*	12(12)	12 in 16(12)	8
N. M.	For-Hire	10(4)	16(8) in 24	..
N. Y.	Trucks and Buses	10	10 in 14	8
N. C.	Franchise Holders	7	14 in 24(7)	..
N. D.	Com. and Cont.	10	10 in 24	10
Ohio	Bus Drivers	14	14 in 24(6)	..
	Truck Drivers	14	14 in 24	8
Okla.	Motor Carriers*	12	10 in 24	6
Ore.	Motor Carriers*	12	12 in 24	10
Pa.	Merchandise or Public Service	12	No Limitations	8
R. I.	Motor Carriers (10)	12	16(8) in 24(3)	8
S. C.	Motor Carriers	12	10 in 24*	8
S. D.	Motor Carriers	12	12(8) in 24(4)	12
Tenn.	Motor Carriers*	12	12 in 24	8
	(83 driving hours in any 7 day period)	14	14 in 24	8
Tex.	Trucks	8	10 in 15	..
Utah	Motor Carriers	10	10 in 15	..
Vt.	Common Carriers	10	10 in 24	10
Va.	Motor Vehicles*	10	13 in 24	..
Wash.	Mot. Frt. Carriers	10	10 in 24	8
	Pass. Com. Carriers	10	10 in 24	8
W. Va.	Motor Carriers	10	No Limitations	10
Wise.	Motor Carriers	10	12(13) in 24	..
Wyo.	Motor Carriers	10	14 in 24(3)	8

- (1)—Or drive a passenger carrier vehicle over 275 miles.
- (2)—If 2 hours rest period provided.
- (3)—Must be followed by 10 consecutive hours off duty.
- (4)—Must be followed by 8 consecutive hours off duty.
- (5)—Shall be permitted to have at least 4 days off duty each month.
- (6)—Or drive a passenger coach more than 300 miles in continuous service or 1500 miles in any week.
- (7)—9 hours at end of two 7 hour periods with one hour rest intervening.
- (8)—No period off duty shall be deemed to break the continuity of service unless it be for at least 3 hours.
- (9)—Periods of not less than 4 hours off duty not to be counted in 12 hour period.
- (10)—Bus operators 55 hours in any 7 consecutive days.
- (11)—No period off duty shall be deemed to break the continuity of service unless it be for not less than 2 hours at a place where food and lodging may be secured.
- (12)—Time taken for meals not counted in time on duty.
- (13)—60 hours per calendar week and 40 hours maximum for any four consecutive days.

*—Limit is actual driving hours.
Tr—Truck. Com—Common. Cont—Contract.

HIGHWAY Safety

DIAGRAM A.—EVERY BUS OR TRUCK LESS THAN 80 INCHES IN OVER-ALL WIDTH AND LESS THAN 30 FEET IN OVER-ALL LENGTH

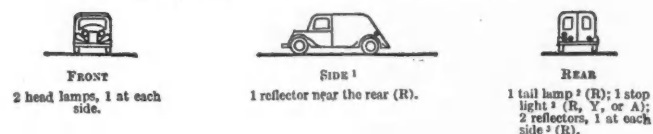


DIAGRAM B.—EVERY BUS OR TRUCK 80 INCHES OR MORE IN OVER-ALL WIDTH AND LESS THAN 30 FEET IN OVER-ALL LENGTH

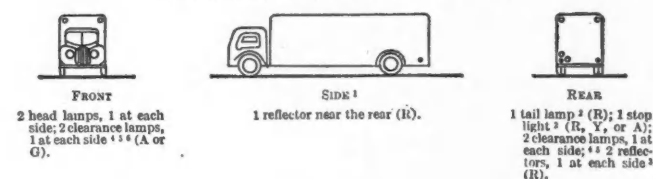


DIAGRAM C.—EVERY BUS OR TRUCK 30 FEET OR MORE IN OVER-ALL LENGTH

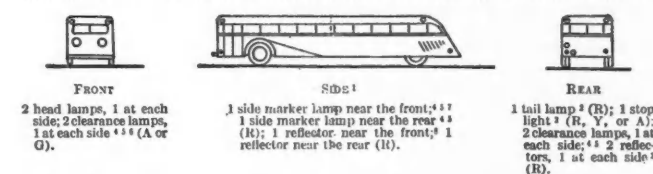


DIAGRAM D (1).—EVERY TRUCK TRACTOR, THE CAB OF WHICH IS AS WIDE AS, OR WIDER THAN, THE TRAILER BEING TOWED

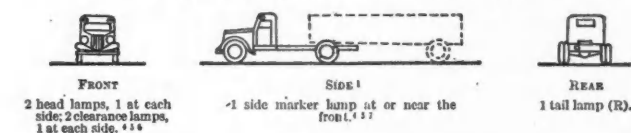


DIAGRAM D (2).—EVERY TRUCK TRACTOR, THE CAB OF WHICH IS NARROWER THAN THE TRAILER BEING TOWED

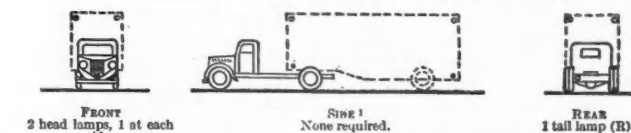
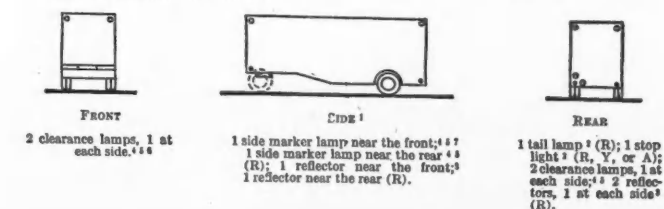


DIAGRAM E (1).—EVERY FULL TRAILER OR SEMITRAILER IN EXCESS OF 3,000 POUNDS GROSS WEIGHT, IF WIDER THAN THE TRUCK OR THE CAB OF THE TRUCK TRACTOR TOWING IT



In the above diagrams operators will find illustrated every lighting

SECTION

PART I.—QUALIFICATIONS OF DRIVERS

1. As used in these regulations—

(a) The term "motor vehicle" means any vehicle, machine, tractor, trailer, or semi-trailer propelled or drawn by mechanical power and used upon the highways in the transportation of passengers or property, and any combination of such vehicles, but does not include any vehicle, locomotive, or car operated exclusively on a rail or rails.

2. Every motor carrier shall comply with the following regulations, and shall instruct his or its employees and agents with respect thereto.

3. On and after July 1, 1937, no motor carrier shall drive, or require or permit any person to drive, any motor vehicle operated in interstate or foreign commerce, unless the person so driving possesses the following minimum qualifications:

(TURN TO PAGE 88, PLEASE)

DIAGRAM E (2).—EVERY FULL TRAILER OR SEMITRAILER IN EXCESS OF 3,000 POUNDS GROSS WEIGHT, IF AS WIDE AS, OR NARROWER THAN, THE TRUCK OR THE CAB OF THE TRUCK TRACTOR TOWING IT

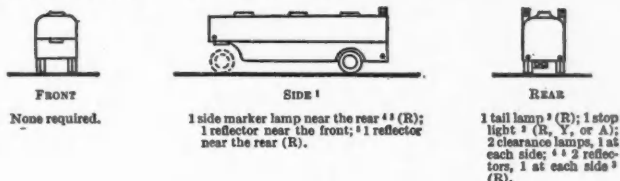


DIAGRAM F.—EVERY POLE TRAILER IN EXCESS OF 3,000 POUNDS GROSS WEIGHT

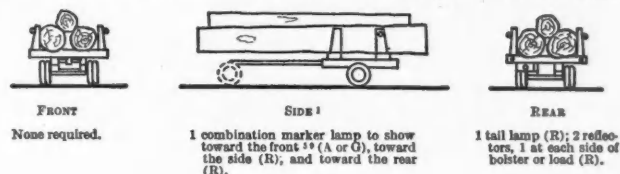


DIAGRAM G.—EVERY FULL TRAILER, SEMITRAILER, AND POLE TRAILER WEIGHING 3,000 POUNDS GROSS OR LESS.

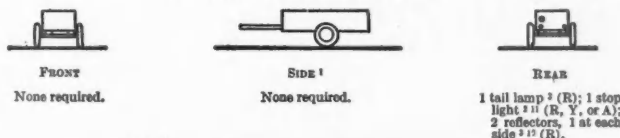
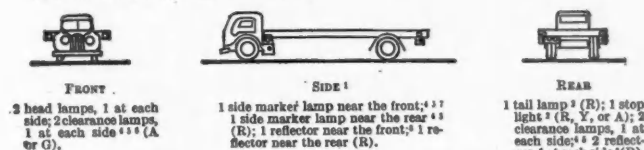


DIAGRAM H.—TRUCKS WITH OTHER THAN BOX TYPE BODIES.—NO PERMANENT PART OF THE BODY ABOVE BED OR PLATFORM LEVEL (illustrative only, not designed to show all types), 80 INCHES OR MORE IN OVER-ALL WIDTH AND 30 FEET OR MORE IN OVER-ALL LENGTH.¹²



Symbols:

- Headlamps.
- Other lamps.
- Reflectors.

Colors.—(R) Red.
(Y) Yellow.
(G) Green.
(A) Amber.

¹Same for each side.

²Stop light and tail lamp may be combined in one housing.

³One reflector may be in combination with tail lamp.

⁴Side marker and clearance lamps may be combined.

⁵To be mounted as near the top as the permanent structure of the vehicle permits, unless identification lights (three bar lights in a row) are used, in which case front clearance lamps may be mounted at platform level.

⁶Front clearance lamps on new vehicles shall be amber. Where green is used for front clearance lamps on present equipment, its use is permitted, but any replacement shall be amber.

⁷Side marker lamps near the front shall be the same color as adjacent front clearance lamps.

⁸Side marker reflectors near the front shall be the same color as the front side marker lamps.

⁹Need not be mounted on, but in any case must show toward, the front.

¹⁰Rear reflectors may be mounted one on each side of bolster or load of a pole trailer.

¹¹Stop light on small trailer required if stop light on towing vehicle is obscured.

¹²Same for full trailers and semitrailers of this type except that head lamps are not required.

Uniform SIZE AND WEIGHT RECOMMENDATIONS

Uniform Standards Adopted
by the American Association
of State Highway Of-
ficials, November 17, 1932

It is the opinion of the Association of State Highway Officials that the adoption of a uniform standard to govern gross weight, dimensions and speeds for motor vehicles operating on the highways is a fundamental necessity for the following reasons:

"(a) To establish one of the fundamental prerequisites of highway design.

"(b) To promote efficiency in the interstate operation of the motor vehicle.

"(c) To secure safety in highway operation.

"(d) To remove from the highways undesirable equipment and operations.

"(e) To stabilize on a definite basis the many relationships between the highway and the motor vehicle.

"These conclusions have been reached after many years of consideration on the part of the Highway Transport Committee of the Association, supplemented by painstaking research by a number of the State Highway Departments and the Bureau of Public Roads.

"The association therefore makes the following recommendations to the proper State authorities having control of traffic on the highways:

(1) Width

"No vehicle shall exceed a total outside width, including any load thereon, of 8 feet, except vehicles now in operation which, by reason of the substitution of pneumatic tires for other types of tires, exceed the above limit.

(2) Height

"No vehicle unladen or with load shall exceed a height of 12 feet, 6 inches.

(3) Length

"(a) No vehicle shall exceed a length of 35 feet extreme overall dimensions, inclusive of front and rear bumpers.

"(b) Combination of vehicles shall consist of not more than two units, and, when so combined, shall not exceed a total length of 45 feet.

"(c) The truck tractor and semi-trailer shall be construed to be one vehicle for the purpose of determining lengths.

"(d) For occasional movements of materials or objects of dimensions which exceed the limits hereon provided, a special permit shall be required.

(4) Speed

"(a) Minimum speed. No motor vehicle shall be unnecessarily driven at such a slow speed as to impede or block the normal and reasonable movement of traffic, except when reduced speed is necessary for safe operation or when a vehicle or a combination of vehicles is necessarily, or in compliance with

(TURN TO PAGE 110, PLEASE)

requirement of the safety regulations under the Federal Motor Carrier Act

STATE Safety Equipment REGULATIONS

STATE	Brakes		Flares and Fuseses		Directional Signals		Insurance		Stoplights		Brakes		Flares and Fuseses		Directional Signals		Insurance		Stoplights	
	Special Provisions For Trailers and Semi-Trailers	Type Required	Must Be Used By	Number	Required	Must Be Approved	Compliance	Financial Responsibility	Required If Invisble	Must Be Approved	Special Provisions For Trailers and Semi-Trailers	Type Required	Must Be Used By	Number	Required	Must Be Approved	Compliance	Financial Responsibility	Required If Invisble	Must Be Approved
Ala.	No		MC		Yes DD	Yes	No	No	Yes	Yes	Nebr.	No	T, B, Comb.	3	Yes DD	Yes	No	No	Yes	Yes
Ariz.	Trailers	(6) L		3	Yes DD	Yes	No	No	Yes	Yes	Nev.	No			No	No	No	No		
Ark.	Semi-Trailers over 750 lb.	(1) L			Yes DD	Yes	No	No	Yes	Yes	N. H.	No	T, Tr, B	NS	No	No	No	No	Yes	Yes
Calif.	No		T, CMV	2	Yes DD	Yes	No	No	Yes	Yes	N. J.	No			Yes DD	Yes	No	No	Yes	Yes
Colo.	Over 3000 lb. gross	(1) L	T—Over 1 ton	3	Yes DD	Yes	No	No	Yes	Yes	N. M.	Over 1500 lb. net load (cap.)	(3) L	NS	Yes DD	Yes	No	No	Yes	Yes
Conn.	Over 4000 lb.	L	PSMV, CMV ov. 1t Comb.	NS	Yes DD	Yes	No	No	Yes	Yes	N. Y.	Over 1000 lb.		NS	Yes DD	Yes	No	No	Yes	Yes
Del.	Over 4000 lb. gr. or 10 m.p.h.	L	T/B	3/2	Yes DD	Yes	No	No	Yes	Yes	N. C.	2 tons or over			Yes DD	Yes	No	No	Yes	Yes
D. C.	No				No	No	No	No	Yes		N. D.	No			No	No	No	No	Yes	Yes
Fla.	Trailers	(6) L			No	No	No	No			Okla.	No			No	No	No	No		
Ga.	Yes	(6) L			Yes DD	Yes	No	No	Yes	Yes	Ore.	No			Yes DD	Yes	No	No	Yes	Yes
Idaho	Over 1500 lb.	C	CMV, B	3	Yes DD	Yes	No	No	Yes	Yes	Penna.	Over 3000 lb. gross	(1) L	3	Yes DD	Yes	No	No	Yes	Yes
Ill.	Over 3000 lb. gross	(1) L			No	No	No	No	Yes	Yes	R. I.	Trailers, gross over 14 tons			Yes DD	Yes	No	No	Yes	Yes
Ind.	Over 3000 lb. gross	D	T, B, CMV	2	No	No	No	No	No	No	S. C.	No		NS	No	No	No	No	Yes	Yes
Iowa	No		T, Comb.	2	No	No	No	No	No	No	S. D.	No		NS	No	No	No	No	Yes	Yes
Kans.	2 or more axles	D	MC	NS	No	No	No	No	No	No	Tenn.	Semi-Trailers ton or ov. gr.	(3) L		Yes DD	Yes	No	No	Yes	Yes
Ky.	Semi-Trailers	L		3	Yes DD	Yes	No	No	Yes	Yes	Texas	No			No	No	No	No		
La.	Over 1500 lb. net	(3) L	T, B, Comb.		No	No	No	No	Yes	Yes	Utah	No			Yes DD	Yes	No	No	Yes	Yes
Maine	Trailers, 2 tons or more		CMV over 2t, B	2	Yes DD	Yes	No	No	Yes	Yes	Vt.	No			Yes DD	Yes	No	No	Yes	Yes
Md.	No				Yes DD	Yes	No	No	Yes	Yes	Wa.	Over 2 tons			No	No	No	No	Yes	Yes
Mass.	No				Yes DD	Yes	No	No	Yes	Yes	Wash.	No			No	No	No	No	Yes	Yes
Mich.	Over 3000 lb. gross	(6) L	MC	3	Yes DD	Yes	No	No	Yes	Yes	W. Va.	No			No	No	No	No	Yes	Yes
Minn.	Semi-T. axle load over 7000	(6) L	T, B	3	No	No	No	No	Yes	Yes	Wisc.	Over 8000 lb. gr. 4 wheels	(A) L		Yes DD	Yes	No	No	Yes	Yes
Miss.	Over 3000 lb.	L		NS	Yes DD	Yes	No	No	Yes	Yes	Wyo.	No regulations as to brakes			No	No	No	No		
Mont.	Trailers	1 Set	MC		No	No	No	No	Yes	Yes										

KEY TO SYMBOLS—(Commission Rulings Are Given in Italics)

GENERAL

- A—Amber
- B—Blue
- B & B—Buses
- C—Carriers
- CC—Common Carriers regular route
- CMV—Commercial Motor Vehicles
- Comb.—Combinations
- Cor.—Corner
- E—Each
- Enc.—Enclosed
- F—Front
- FHC—For-Hire Carriers
- FHT—For-Hire Trailers

- F/R—Front and Rear
- G—Green
- IC—Inside Corner
- L—Left
- LC—Lower Corner
- LP—Lower Part
- MC—Motor Carriers
- MTV—Motor Truck Vehicles
- NO—Not Over
- NS—Not Specified
- P—Purple
- Permit CC—Permit Car Carriers
- PC—Passenger Carriers
- PO—Points
- Pre—Upon Proclamation

- PS—Public Service
- PT—Property Transporters
- R—Red
- Semit—Semi-Trailer
- SB—School Bus
- T—Truck
- TB—Top and Bottom
- TC—Top Corners
- TL—Tail Light
- Tr—Tractor
- Tr—Trailer
- UC—Upper Corners
- UP—Upper Portion
- W—White
- X—Other Than
- Y—Yellow

BRAKES

- C—"Adequate to control the movement of and to stop and to hold such vehicle, including two separate means of applying the brakes."
- D—"Adequate"; "sufficient to control"; "good and sufficient"; "efficient"; "serviceable."
- L—Brakes operated by driver.
- (1)—So constructed if unit becomes disconnected brakes lock automatically.
- (3)—Required on every wheel.

- (5)—Air or vacuum booster brakes—Florida, vacuum booster brakes required on vehicles over 16,000 lb. maximum gross weight. Nebraska, power or booster brakes required on buses and trucks over 12,000 lb. gross weight.
- *—Where no designation of the specific class (i. e., trailer or semitrailer) is made, both classes must be understood.
- (A)—The following stopping distances are specified:—
Oklahoma—Must stop within 45 ft. from 20 m.p.h.
Wisconsin—Must stop within 50 ft. from 20 m.p.h.

CLEARANCE LIGHTS

- (11)—Trucks 2-ton or over
- (12)—Trucks 2-ton or over

- †—Grouped as identification lights.

Enc.—Enclosed
F.—Front
FHC—For-Hire Carriers
FHT—For-Hire Trailers

Permit CC—Permit Car Carriers
PC—Passenger Carriers
PO—Points
Pro—Upon Proclamation

UP—Upper Portion
W—White
X—Other Than
Y—Yellow

(1)—So constructed if unit becomes disconnected
brakes lock automatically.
(3)—Required on every wheel.

Okla.—Must stop within 40 ft. from
20 m.p.h.
Wisconsin—Must stop within 50 ft. from
20 m.p.h.

CLEARANCE LIGHTS

- (1)—Except road roller, road machinery or farm tractor.
(2)—Except passenger common carrier.
(3)—Except buses operated wholly in municipalities with illuminated interiors.
(4)—Except small two-wheeled trailers of 1,000 pounds or less capacity towed closely behind motor vehicle (and semitrailers towed alone

In New Hampshire and West Virginia, when towed including towing vehicle is not over 30 ft.
(5)—Or which extends 40' or more to the left of the center of the chassis.
(6)—Over 7 ft. in height or extending 4 inches beyond the front fender extremities.
(7)—Over 8 ft. high
(8)—3 tons or over
(9)—Trucks over 2 tons
(10)—Not in city service.

(11)—Trucks 2-ton or over
(12)—Trucks and Special Permit
Identification lamps spaced evenly 8'-12" apart
Green to right, red to left.
Set by Commissioner.

REFLECTORS

*—May use in lieu of clearance lights.
†—May use in lieu of rear lights.

†—Grouped as identification lights.
1—Except road-roller, road machinery, or farm tractor.
2—Or whose load or any part extends 40 in. or more to the left of the center of the chassis.

DIRECTIONAL SIGNALS

DD—When so loaded or constructed as to make hand signal invisible.

CLEARANCE LIGHTS

CLEARANCE LIGHTS													CLEARANCE LIGHTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
STATE	Required On	In Excess		No. Required		Color		Location		Visiblity (Ft.)		Need Approval	STATE	Required On	In Excess		No. Required		Color		Location		Visiblity (Ft.)		Need Approval																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Ala....	MV (1).....	80	1	1	1	W	R	L	500	500	Mont..	T. Trl. Aut.....	80	4*	WG/Y	R	..	2-E

CLEARANCE LIGHTS

STATE	Required On	In Excess		No. Required		Color		Location		Visibility (Ft.)		Need Approval		
		Width (In.)	Length (Ft.)	Front	Rear	Side	Front	Rear	Side	Spacing on Side	Position from Ground (In.)		Front	Rear	Side
Mont.	T, Trl, Aut.	80	..	..	..	4*	WG/Y	R	..	2-E	..	..	..	..
Neb.	MV (5)	80	..	1*	1*	..	G	R	..	L	..	300	300	..
Nev.	..	..	..	..	..	..	..	..	..	..	..	..	..	..
N. H.	CMV, T, Trl, SemT, Trl, SemT (A), MV towing Trl.	72	..	1*	1*	1	G	..	W	L	F	200	200	Y
N. J.	Bus, Permit CC.	..	..	N/S	N/S	4	..	..	..	1-E	2-E	UC	600	900
N. M.	MV (1)	80	..	1	1	..	W	Y/R	..	L	..	500	500	..
N. Y.	MV.	80	..	1*	1*	..	Y	R	..	L	..	500	500	..
N. C.	MV.	80	..	1	1	..	W	R	..	L	..	500	500	..
N. D.	MV (1), Cert., & Perm.	80	..	1	N/S	N/S	W	R	..	L	E	500	500	..
Ohio	MC.	..	..	..	..	..	M/S	R	..	E	..	..	..	..
Ohio	MV (1), PC, FC (10).	70	..	1	1	1	W	R/Y	..	L	E	500	500	..
Ore.	MV (1), Comb.	72	20	1	1	1	W	R	W	L	20	500	500	..
Pa.	Vehicles (1), MV, Trl, SemT, Comb, SemT, Comb.	80	30	1	1	1	G	R	..	L	..	500	500	..
R. I.	Bus.	..	..	..	..	..	P/B	..	..	E	..	..	..	..
S. C.	T (11) 8, Tr-Trl.	..	2	2	2	2	G	R	..	E	..	300	300	..
S. D.	MV (1), MV, Comb.	80	22/15	1*	1*	1*	W	Y/R	..	L	..	500	500	Y
Tenn.	MV (1).	80	72	2*	2*	2*	G	R	..	E	..	500	500	Y
Tex.	MV (1).	80	1*	1*	1*	..	W	Y/R	..	L	..	200	500	..
Utah.	Vehicles (1), Vehicles.	80	30	1	1	1	G	R	..	L	..	500	500	Y
Vt.	MV.	80	..	..	..	..	G	R	..	2-E	F/R	500	500	Y
Va.	MV (6) or.	84	..	2	2	2	G	R	..	E	..	300	300	Y
Wash.	Y or Comb. (1), Vehicles.	72	20	1	1	1	W/Y	R	W	1-E	1-E	500	500	..
W. Va.	Trl, SemT (4).	..	..	1	..	..	W	..	..	L	..	Y	Y	..
Wis.	MV Comb. (12), Bus.	80	..	1*	1*	..	GB/A	R	R	1-E	1-E	600	600	..
Wyo.	Vehicles (1), Vehicles.	70	20	1*	1*	1*	G	R	R	L	1-E	500	500	..

REFLECTOR REGULATIONS ON THE NEXT PAGE

STATE SAFETY EQUIPMENT REGULATIONS (Continued)—Key to Symbols on preceding pages

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Corrected to March 1, 1937—Prepared Exclusively for Commercial Car Journal by National Highway Users' Conference—Copyright 1937

TRUCK *CarGo* WEIGHTS

77

Cargo and Unit of Measurement	Weight per Unit (Lbs.)	Quantity of Units Required to Make These Loads							
		1 Ton	1½ Tons	2 Tons	2½ Tons	3 Tons	5 Tons	7½ Tons	10 Tons
Aluminum (cu. yd.).....	4,800	¾	¾	¾	¾	¾	2¼	3¾	4¾
Apples (bu.).....	50	40	60	80	100	120	200	300	400
Apples (bbl.).....	150	14	20	27	34	40	67	100	134
Asbestos (cu. yd.).....	5,180	¾	¾	¾	¾	¾	2	3	3¾
Ashes (cu. yd.).....	1,020	1¼	2¼	3¼	4¼	5¼	9¼	14	18¼
Asphalt (cu. yd.).....	2,700	¾	¾	¾	¾	¾	2¼	3¾	4¾
Bananas (bbl.).....	105	19	29	38	48	57	95	143	191
Barley (bu.).....	48	42	63	84	105	125	209	313	417
Beans (bu.).....	60	34	50	67	84	100	167	250	334
Beef (bbl.).....	200	10	15	20	25	30	50	75	100
Beer (case, 24 pt.).....	59	34	51	68	85	102	169	255	339
Beer (case, 36 pt.).....	91	22	33	44	55	66	108	165	220
Beer (case, 24 qt.).....	94	21	32	43	54	64	107	160	213
Beer (bbl. 31½ gal.).....	355	6	9	12	14	17	29	43	57
Beer (half bbl. 15½ gal.).....	195	10	15	20	25	30	50	75	100
Beer (hogshd. 63 gal.).....	650	3	5	6	8	9	16	23	31
Beeswax (cu. yd.).....	1,633	¾	¾	¾	¾	¾	2¼	3¾	4¾
Beets (bu.).....	55	36	55	73	91	109	182	273	364
Beets (bbl.).....	120	17	25	33	42	50	84	125	167
Beverages (5 gal.).....	60	34	50	67	84	100	167	250	334
Beverages (case, 24 ½ gal.).....	180	11	17	22	28	34	56	83	112
Beverages (case, 24 ½ pt.).....	40	50	75	100	125	150	250	375	500
Beverages (case, 60 qt.).....	187	11	16	21	27	32	54	81	108
Blocks, Paving (cu. yd.).....	3,700	¾	¾	¾	¾	¾	2¼	3¾	4¾
Bran (bu.).....	20	100	150	200	250	300	500	750	1,000
Brass (cu. ft.).....	523	4	6	8	10	12	19	29	38
Bronze (cu. ft.).....	552	4	6	8	10	12	19	29	38
Brick, Clay (cu. yd.).....	2,720	¾	¾	¾	¾	¾	2¼	3¾	4¾
Brick, Common Hard (cu. yd.).....	3,400	¾	¾	¾	¾	¾	2¼	3¾	4¾
Brick, Paving (cu. yd.).....	4,250	¾	¾	¾	¾	¾	2¼	3¾	4¾
Brick, Fire (cu. yd.).....	3,915	¾	¾	¾	¾	¾	2¼	3¾	4¾
Brick, Pressed (cu. yd.).....	3,800	¾	¾	¾	¾	¾	2¼	3¾	4¾
Brick, Soft, Interior (cu. yd.).....	2,700	¾	¾	¾	¾	¾	2¼	3¾	4¾
Buckwheat (bu.).....	48	42	63	84	104	125	209	313	418
Cabbage (bu.).....	50	40	60	80	100	120	200	300	400
Carrots (bu.).....	50	40	60	80	100	120	200	300	400
Carrots (bbl.).....	100	20	30	40	50	60	100	150	200
Celery (bbl.).....	120	17	25	33	42	50	84	125	167
Cement, Natural (cu. yd.).....	1,510	¾	¾	¾	¾	¾	2¼	3¾	4¾
Cement, Portland (cu. yd.).....	2,430	¾	¾	¾	¾	¾	2¼	3¾	4¾
Cement, Portland (bbl.).....	380	5	8	11	13	16	27	40	53
Cement, Western (cu. yd.).....	1,750	¾	¾	¾	¾	¾	2¼	3¾	4¾
Cinders (cu. yd.).....	1,080	¾	¾	¾	¾	¾	2¼	3¾	4¾
Clay, dry (cu. yd.).....	1,700	¾	¾	¾	¾	¾	2¼	3¾	4¾
Clay, wet (cu. yd.).....	2,970	¾	¾	¾	¾	¾	2¼	3¾	4¾
Clay and Gravel, wet (cu. yd.).....	2,700	¾	¾	¾	¾	¾	2¼	3¾	4¾
Clover (bu.).....	25	80	120	160	200	240	400	600	800
Coal, Anthracite (cu. yd.).....	1,520	¾	¾	¾	¾	¾	2¼	3¾	4¾
Coal, Bituminous (cu. yd.).....	1,275	¾	¾	¾	¾	¾	2¼	3¾	4¾
Coal, Channel (cu. yd.).....	1,325	¾	¾	¾	¾	¾	2¼	3¾	4¾
Coal, Indiana (cu. yd.).....	1,160	¾	¾	¾	¾	¾	2¼	3¾	4¾
Coal, Pocahontas (cu. yd.).....	1,410	¾	¾	¾	¾	¾	2¼	3¾	4¾
Coke (cu. yd.).....	1,000	¾	¾	¾	¾	¾	2¼	3¾	4¾
Concrete Cinder (cu. yd.).....	2,970	¾	¾	¾	¾	¾	2¼	3¾	4¾
Concrete Gravel (cu. yd.).....	4,100	¾	¾	¾	¾	¾	2¼	3¾	4¾
Concrete Stone (cu. yd.).....	4,200	¾	¾	¾	¾	¾	2¼	3¾	4¾
Copper (cu. yd.).....	7,075	¾	¾	¾	¾	¾	2¼	3¾	4¾
Cork (cu. yd.).....	405	5	7½	10	12½	15	25	37½	50
Corn, Green (bbl.).....	98	20	31	41	51	62	102	153	204
Corn, Shelled (bu.).....	56	36	55	73	91	109	182	273	364
Corn Meal bolted (bu.).....	44	45	68	91	114	137	227	342	457
Cotton (bale).....	515	4	6	8	10	12	20	29	39
Cotton Compressed (bale).....	515	4	6	8	10	12	20	29	39
Crushed Stone (cu. yd.).....	2,700	¾	¾	¾	¾	¾	2¼	3¾	4¾
Cucumbers (bu.).....	48	42	63	84	104	125	209	313	418
Cucumbers (bbl.).....	120	17	25	33	42	50	84	125	167
Earth, dry, loose (cu. yd.).....	1,890	¾	¾	¾	¾	¾	2¼	3¾	4¾
Earth, moist (cu. yd.).....	2,214	¾	¾	¾	¾	¾	2¼	3¾	4¾
Eggs (crate, 30 doz.).....	52	39	58	77	96	115	192	289	385
Fats (cu. yd.).....	1,566	¾	¾	¾	¾	¾	2¼	3¾	4¾
Feed (bu.).....	40	50	75	100	125	150	250	375	500
Flour, loose (cu. yd.).....	756	¾	¾	¾	¾	¾	2¼	3¾	4¾
Flour, pressed (cu. yd.).....	1,269	¾	¾	¾	¾	¾	2¼	3¾	4¾
Fuel Oil (bbl. 55 gal.).....	400	5	8	10	13	15	25	38	50
Garbage (cu. yd.).....	1,150	¾	¾	¾	¾	¾	2¼	3¾	4¾
Granite (cu. yd.).....	4,540	¾	¾	¾	¾	¾	2¼	3¾	4¾
Gravel, dry (cu. yd.).....	2,970	¾	¾	¾	¾	¾	2¼	3¾	4¾
Greens (bbl.).....	60	34	50	67	84	100	167	250	334
Hay (std. bale).....	210	10	14	19	24	29	47	71	94
Hay (small bale).....	120	17	25	33	42	50	84	125	167
Hominy (bu.).....	60	34	50	67	84	100	167	250	334
Horseradish (bu.).....	50	40	60	80	100	120	200	300	400
Indian Wheat (bu.).....	46	42	63	84	104	125	209	313	418
Iron, Brown (cu. yd.).....	8,400	¾	¾	¾	¾	¾	2¼	3¾	4¾
Iron, Hematite (cu. yd.).....	8,780	¾	¾	¾	¾	¾	2¼	3¾	4¾
Iron, Magnetite.....	8,400	¾	¾	¾	¾	¾	2¼	3¾	4¾
Iron, Ordinary (cu. yd.).....	7,590	¾	¾	¾	¾	¾	2¼	3¾	4¾
Lard (cu. yd.).....	1,593	¾	¾	¾	¾	¾	2¼	3¾	4¾
Lead (cu. yd.).....	12,250	¾	¾	¾	¾	¾	2¼	3¾	4¾
Leather (cu. yd.).....	1,593	¾	¾	¾	¾	¾	2¼	3¾	4¾
Lettuce (bbl.).....	60	34	50	67	84	100	167	250	334
Lime (cu. yd.).....	1,450	¾	¾	¾	¾	¾	2¼	3¾	4¾
Lime (bbl.).....	320	6	10	14	18	22	37	55	73
Limestone, solid (cu. yd.).....	4,540	¾	¾	¾	¾	¾	2¼	3¾	4¾
Limestone, loose (cu. yd.).....	2,600	¾	¾	¾	¾	¾	2¼	3¾	4¾
Lime Oil (bbl. 50 gal.).....	400	5	8	10	13	15	25	38	50
Malt (bu.).....	35	57	86	114	143	171	288	429	572
Manganese (cu. yd.).....	6,990	¾	¾	¾	¾	¾	2¼	3¾	4¾
Marble, solid (cu. yd.).....	4,450	¾	¾	¾	¾	¾	2¼	3¾	4¾
Marble, loose (cu. yd.).....	2,600	¾	¾	¾	¾	¾	2¼	3¾	4¾
Meal (bu.).....	50	40	60	80	100	120	200	300	400
Milk (case, 20 pt.).....	54	36	55	73	91	109	182	273	364
Milk (case, 12 qt.).....	63	32	48	64	80	95	159	238	318
Milk (can).....	113	18	27	36	45	53	89	133	178
Molasses (bbl. 50 gal.).....	650	3	5	6	8	9	16	23	31
Nickel (cu. ft.).....	549	3½	5½	7½	9	11	18½	27½	36½
Oats (bu.).....	32	63	94	125	157	188	313	469	626
Onions (bu.).....	55	36	55	73	91	109	182	273	364
Onions (bbl.).....	160	13	19	25	32	38	63	94	125
Paper (cu. yd.).....	1,570	¾	¾	¾	¾	¾	2¼	3¾	4¾
Paper, Newsprint (cu. yd.).....	8	250	375	500	625	750	1,250	1,875	2,500
Parsley (bu.).....	20	100	150	200	250	300	500	750	1,000
Peanuts (bu.).....	60	34	50	67	84	100	167	250	334
Pears (bbl.).....	150	14	20	27	34	40	67	100	134
Peppers (bbl.).....	60	34	50	67	84	100	167	250	334
Pie Plant (bu.).....	50	40	60	80	100	120	200	300	400
Pitch (cu. yd.).....	1,860	¾	¾	¾	¾	¾	2¼	3¾	4¾
Plaster Paris (cu. yd.).....	2,850	¾	¾	¾	¾	¾	2¼	3¾	4¾
Pork (bbl.).....	200	10	15	20	25	30	50	75	100
Potatoes (bu.).....	80	34	50	67	84	100	167	250	334
Potatoes (bbl.).....	175	12	17	23	29	34	57	85	113
Powder (cu. yd.).....	1,682	¾	¾	¾	¾	¾	2¼	3¾	4¾
Quartz (cu. yd.).....	4,375	¾	¾	¾	¾	¾	2¼	3¾	4¾
Resin (cu. yd.).....	1,215	¾	¾	¾	¾	¾	2¼	3¾	4¾
Rhubarb (bu.).....	50	40	60	80	100	120	200	300	400
Rice (bu.).....	43	47	70	93	117	140	233	349	465
Rubbish (cu. yd.).....	200	10	15	20	25	30	50	75	100
Rye (bu.).....	55	36	55	73	91	109	182	273	364
Salt (bbl.).....	280	7	11	14	18	22	38	54	72
Sand, wet (cu. yd.).....	3,190	¾	¾	¾	¾	¾	2¼	3¾	4¾
Sand, dry, loose (cu. yd.).....	2,620	¾	¾	¾	¾	¾	2¼	3¾	4¾
Sandstone (cu. yd.).....	4,025	¾	¾	¾	¾	¾	2¼	3¾	4¾
Shale (cu. yd.).....	4,375	¾	¾	¾	¾	¾	2¼	3¾	4¾
Shorts (bu.).....	20	100	150	200	250	300	500	750	1,000
Slag Bank (cu. yd.).....	1,900	¾	¾	¾	¾	¾	2¼	3¾	4¾
Slag Sand (cu. yd.).....	1,490	¾	¾	¾	¾	¾	2¼	3¾	4¾
Slate (cu. yd.).....	4,725	¾	¾	¾	¾	¾	2¼	3¾	4¾
Spinach (bbl.).....	20	100	150	200	250	300	500	750	1,000
Spinach (bbl.).....	60	34	50	67	84	100	167	250	334
Steel (cu. ft.).....	490	4	6	8	10	12	20	29	39
Straw (bale).....	180	11	17	22	28	34	56	83	112
Street Sweepings (cu. yd.).....	850	¾	¾	¾	¾	¾	2¼	3¾	4¾
Sugar (bbl.).....	300	7	10	13	17	20	33	50	67
Sugar Cane (ba.).....	57	36	55	73	91	109	182	273	364
Sulphur (cu. yd.).....	3,380								



CHOOSING Colors

SUBJECTS DISCUSSED ARE:

1. Choosing color combinations for visibility.
2. Choosing colors for contrast value.
3. What color combinations are most visible at night?

Illustrations show (1) A dark finish is safe for trucks operating in regions where the background is white. (2) A red painted truck is not the safest color when the building is also red—bad contrast value. (3) A dark truck is lost against red brick; no contrast here. (4 & 5) When painting a truck consider the predominating color in the community in which it will operate. These trucks contrast properly with the background; stand out

1936 Accident STATISTICS

By WEATHER CONDITION

	Fatal Accidents	Per Cent	Non-Fatal Accidents	Per Cent
Clear	28,750	85.7	707,390	85.1
Fog	800	2.4	12,470	1.5
Rain	3,260	9.7	88,940	10.7
Snow	740	2.2	22,450	2.7
TOTAL	33,550	100.0	831,250	100.0

By ROAD CONDITIONS

	Fatal Accidents	Per Cent	Non-Fatal Accidents	Per Cent
Dry	25,560	76.2	620,090	74.6
Wet	5,370	16.0	130,500	15.7
Snowy	910	2.7	29,950	3.6
Icy	1,710	5.1	50,710	6.1
TOTAL	33,550	100.0	831,250	100.0

By DRIVER EXPERIENCE

	Drivers in Fatal Accidents	Per Cent	Drivers in Non-Fatal Accidents	Per Cent
Under 3 months	420	1.0	9,730	.8
3 to 6 months	290	.7	9,730	.8
6 to 12 months	420	1.0	12,160	1.0
1 year or more	40,590	97.3	1,184,690	97.4
TOTAL	41,720	100.0	1,216,310	100.0

By TYPES OF ACCIDENTS

	Number of Accidents	Per Cent	Persons Killed	Per Cent	Persons Injured	Per Cent
COLLISION WITH:						
Pedestrian	319,110	36.9	16,160	43.9	293,350	30.3
Automobile	391,760	45.3	8,980	24.4	488,850	50.5
Horse-drawn vehicle	4,320	.5	70	.2	4,750	.5
Railroad train	5,190	.6	1,770	4.8	5,810	.6
Street car	9,510	1.1	330	.9	12,580	1.3
Other vehicle	6,920	.8	290	.8	7,740	.8
Fixed object	53,620	6.2	3,970	10.8	65,780	6.8
Bicycle	25,080	2.9	770	2.1	24,200	2.5
Non-collision	43,240	5.0	4,200	11.4	58,970	6.1
Miscellaneous	6,050	.7	260	.7	5,810	.6
TOTAL	864,800	100.0	36,800	100.0	967,840	100.0

By VEHICLE CONDITION

	Vehicles in Fatal Accidents	Per Cent	Vehicles in Non-Fatal Accidents	Per Cent
In apparently good condition	39,190	93.1	1,165,900	95.0
Brakes defective	800	1.9	18,410	1.5
Steering mechanism defective	210	.5	4,910	.4
Glaring headlights	300	.7	3,680	.3
One or both headlights out	210	.5	6,140	.5
Tail-light out or obscured	130	.3	4,910	.4
No chains (wet, slippery road)	170	.4	12,270	1.0
Other defects in equipment	500	1.2	3,680	.3
Puncture or blowout	460	1.1	6,140	.5
Miscellaneous	130	.3	1,220	.1
Total	42,100	100.0	1,227,260	100.0



for SAFETY*

ACCORDING to "Outdoor Advertising," tests, which were confirmed by M. Luckeish who has made a number of studies of vision for the General Electric Co. were made to determine the relative legibility of various color combinations. The results of these tests certainly should be most helpful to operators seeking a highly visible color combination for trucks. The tests were made with 12 different color combinations of Winsor and Newton tempera colors, the most intense colors in each hue being selected as follows: vermilion, cadmium yellow, emerald green, French blue, black and white.

The color cards, each 10 x 13 in. in size,

with letters 5 in. high, were in two color combinations, one for the letter and the other for the background. The letters selected were K-E-D because they broke up the space evenly and represented the different strokes in lettering. The letters occupied one-third of the area.

The test was made outdoors in daylight. Ten persons, individually, judged each color combination for relative legibility. Each observer was taken so far back that no card was legible. As he approached, the first combination read was noted and so on until the whole had been recorded. By this method the test became automatic. The results were:

Rank	Letters	Ground
1	Black	Yellow
2	Black	White
3	Yellow	Black
4	White	Black
5	Blue	White
6	White	Blue
7	White	Green
8	Green	White
9	Red	White
10	White	Red
11	Red	Green
12	Green	Red

It was noted that black on yellow could
(TURN TO PAGE 106, PLEASE)

*By ELIZABETH FRENCH, Director, Duco Color Advisory Service

By DRIVER MISTAKES

	Number of Accidents	Per Cent	Persons Killed	Per Cent	Persons Injured	Per Cent
Exceeding speed limit	116,780	21.9	7,410	32.6	153,050	21.1
On wrong side of road	87,450	16.4	3,410	15.0	119,680	16.5
Did not have right-of-way	124,250	23.3	3,160	13.9	173,360	23.9
Cutting in	25,600	4.8	480	2.1	36,270	5.0
Passing standing street car	2,130	.4	70	.3	2,900	.4
Passing on curve or hill	6,400	1.2	290	1.3	8,700	1.2
Passing on wrong side	6,930	1.3	270	1.2	9,430	1.3
Failed to signal and improper signaling	27,200	5.1	340	1.5	38,440	5.3
Car ran away—no driver	3,200	.6	340	1.5	4,350	.6
Drove off roadway	53,320	10.0	3,300	14.5	70,360	9.7
Reckless driving	53,320	10.0	2,930	12.9	71,080	9.8
Miscellaneous	26,660	5.0	730	3.2	37,720	5.2
TOTAL	533,240	100.0	22,730	100.0	725,340	100.0

All Statistics compiled by The Travelers.

By ROAD LOCATION

	Number of Accidents	Per Cent	Persons Killed	Per Cent	Persons Injured	Per Cent
Between intersections	290,440	33.6	8,300	22.6	330,000	34.1
Rural intersections	28,540	3.3	1,240	3.4	31,940	3.3
Highway	156,530	18.1	14,620	39.7	164,030	16.9
Driveway	6,050	.7	370	1.0	6,780	.7
Curve	46,700	5.4	4,200	11.4	49,360	5.1
Street intersections	320,970	37.1	5,770	15.7	366,310	38.1
Railroad crossing	5,190	.6	1,770	4.8	5,810	.6
Bridge	10,380	1.2	530	1.4	11,610	1.2
TOTAL	664,800	100.0	36,800	100.0	967,840	100.0

By DIRECTION OF TRAVEL

	Persons Killed	Per Cent	Persons Injured	Per Cent
Going straight	32,230	87.6	763,630	78.9
Turning right	530	1.4	25,160	2.6
Turning left	1,210	3.3	60,970	6.3
Backing	330	.9	13,550	1.4
Skidding	1,140	3.1	33,880	3.5
Parked or standing still	770	2.1	36,780	3.8
Slowing down or stopping	410	1.1	30,000	3.1
Miscellaneous	180	.5	3,870	.4
TOTAL	38,800	100.0	967,840	100.0

By TYPES OF VEHICLES

	Vehicles in Fatal Accidents	Per Cent	Vehicles in Non-Fatal Accidents	Per Cent
Passenger	32,590	77.4	985,490	80.3
Commercial	7,700	18.3	162,000	13.2
Taxi	380	.9	41,730	3.4
Bus	420	1.0	18,410	1.5
Motorcycle	880	2.1	17,180	1.4
All others	130	.3	2,450	.2
TOTAL	42,100	100.0	1,227,260	100.0

By YEARS-DEATHS

1922.....14,988	1927.....25,533	1932.....29,198
1923.....16,031	1928.....27,618	1933.....31,078
1924.....19,228	1929.....30,858	1934.....35,769
1925.....21,628	1930.....32,540	1935.....36,100
1926.....23,264	1931.....33,346	1936.....36,800
Grand Total.....415,977		

TRUCK INDUSTRY

Vital STATISTICS

Total Truck Registrations by States

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Alabama	31,906	34,493	37,632	37,976	33,972	31,575	29,638	34,101	38,989	44,272
Arizona	12,450	8,336	10,686	12,045	12,633	14,687	14,589	16,791	17,964	20,183
Arkansas	32,044	33,651	39,732	26,986	31,275	22,989	32,980	39,700	40,107	50,131
California	*213,784	217,413	214,033	230,387	245,213	234,177	220,067	237,558	253,906	1266,379
Colorado	23,385	23,961	28,501	31,662	32,062	30,357	27,433	27,858	28,430	29,684
Connecticut	43,012	46,701	50,006	51,196	52,227	51,388	52,564	55,878	62,232	63,000
Delaware	9,087	10,015	10,232	10,576	*9,991	*8,666	*8,485	*9,394	*9,692	10,010
District of Columbia	13,518	14,051	15,995	16,943	18,185	18,286	16,742	17,255	17,610	19,000
Florida	61,755	56,270	67,293	53,098	61,724	37,955	45,019	55,359	67,199	63,884
Georgia	38,005	40,975	46,543	47,119	46,264	42,050	51,212	60,282	66,079	73,209
Idaho	10,030	11,194	13,676	14,551	15,435	14,030	14,984	17,061	21,371	25,852
Illinois	*184,564	*190,356	*203,335	207,584	201,509	177,820	*186,186	*174,265	*185,477	*206,928
Indiana	116,276	117,053	125,349	128,397	129,826	122,019	118,381	122,791	132,767	131,767
Iowa	54,894	61,019	69,531	72,190	78,414	74,862	69,490	75,350	80,529	82,840
Kansas	54,628	61,902	*73,694	*83,139	*80,464	*71,778	*72,404	75,565	*80,068	*87,113
Kentucky	29,729	31,595	34,132	35,841	34,969	31,621	32,111	37,445	43,613	50,000
Louisiana	38,000	40,848	46,303	44,697	47,783	41,853	42,007	44,779	59,398	76,251
Maine	30,696	33,178	36,544	37,435	36,771	36,203	35,271	37,693	38,079	39,276
Maryland	11,085	10,090	38,839	37,632	36,080	41,527	34,728	45,351	48,628	53,398
Massachusetts	79,748	89,142	98,268	102,918	103,688	102,959	99,654	98,608	100,411	102,400
Michigan	*155,982	*164,606	*175,944	*167,158	*162,635	*123,273	*121,639	*123,405	*127,283	*139,620
Minnesota	81,281	89,794	99,686	108,070	108,435	101,650	99,130	103,882	105,861	114,448
Mississippi	21,804	31,488	32,649	33,651	*30,721	*25,164	32,924	34,115	33,306	43,357
Missouri	72,116	76,248	85,443	*91,455	*95,975	*99,265	*103,795	107,709	115,819	*120,425
Montana	18,002	21,804	25,102	28,619	*24,037	*27,480	*31,087	*35,542	*39,311	
Nebraska	*331,555	*333,182	42,260	58,642	59,848	62,294	53,947	58,560	59,054	62,133
Nevada	5,362	5,643	6,613	6,257	6,950	6,527	5,927	6,391	6,875	*7,680
New Hampshire	12,594	14,050	13,980	19,028	18,671	17,378	19,672	22,382	23,455	*23,500
New Jersey	125,886	128,682	133,373	133,154	133,361	129,604	122,228	123,351	124,866	130,642
New Mexico	1,648	1,994	2,374	113,700	15,884	15,020	15,290	16,112	18,245	22,731
New York	313,383	323,393	341,191	340,749	338,913	313,785	298,508	298,379	306,919	326,404
North Carolina	40,276	45,512	52,951	56,108	54,575	50,282	49,660	54,766	57,931	65,000
North Dakota	15,871	21,747	25,954	27,636	26,588	23,690	*25,342	26,315	28,780	29,650
Ohio	196,332	198,705	206,432	204,272	*191,929	167,482	*158,189	*159,845	*170,954	*172,273
Oklahoma	65,350	64,293	60,390	59,384	54,585	44,884	65,957	73,928	82,855	90,638
Oregon	20,990	20,714	21,876	22,437	22,950	34,477	32,206	41,411	42,584	49,746
Pennsylvania	200,367	221,250	217,408	218,687	219,812	216,334	219,497	215,016	229,026	249,637
Rhode Island	19,153	19,543	19,999	19,631	19,565	18,416	17,965	18,332	18,428	19,458
South Carolina	20,064	22,538	25,591	26,261	23,439	19,722	17,795	20,877	29,761	33,525
South Dakota	18,533	20,307	*22,760	24,677	33,516	19,542	22,764	23,832	26,931	29,172
Tennessee	25,481	27,832	*32,734	37,623	33,976	31,434	33,648	37,755	42,031	49,368
Texas	115,010	154,289	182,957	206,757	210,991	191,462	188,676	226,276	257,055	285,839
Utah	13,244	14,321	17,000	17,889	17,577	16,096	16,348	17,103	17,587	22,000
Vermont	6,219	7,546	8,559	8,226	8,453	8,309	7,924	8,612	9,031	9,882
Virginia	48,941	53,634	58,680	57,307	56,633	62,344	57,266	57,268	60,376	57,889
Washington	57,916	57,898	62,346	63,188	60,082	63,826	62,548	64,321	68,657	79,500
West Virginia	28,130	35,769	40,173	40,373	39,359	32,916	33,415	27,253	29,305	36,906
Wisconsin	88,494	95,388	104,055	106,110	113,773	108,047	104,347	120,180	130,144	150,779
Wyoming	6,416	7,576	8,800	9,922	10,713	9,879	10,643	13,102	14,593	15,592
TOTALS	2,914,019	3,113,999	3,379,854	3,486,019	3,466,571	3,229,315	3,227,357	3,409,335	3,655,705	3,980,482

* Includes buses.

† Includes only trucks and buses weighing over 3,000 pounds.

‡ Large increase due to reclassification of trucks previously carried as passenger cars.

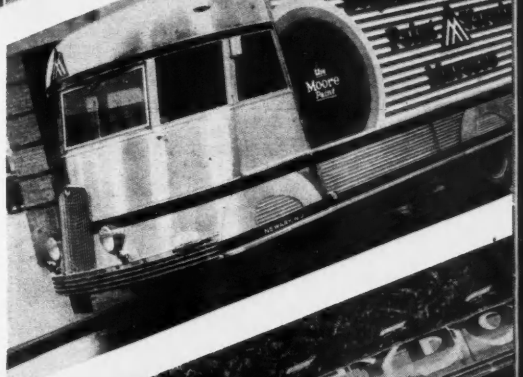
§ Includes approximately 120,000 light commercial vehicles listed as passenger cars.

Age of Trucks in Use*

	New Truck Registrations	% Surviving	Number Surviving	Age	Of Trucks in Use:	Of Trucks in Use:
1936	611,644	99.5	608,586	1	608,586 are up to 1 year of age	3,021,746 are 1 or more years old
1935	510,683	98.7	504,044	2	1,112,630 " " 2 years of age	2,413,160 " " " " " "
1934	403,886	97.5	393,789	3	1,506,419 " " " " " "	1,909,116 " " " " " "
1933	245,869	95.1	233,821	4	1,740,240 " " " " " "	1,515,327 " " " " " "
1932	180,413	92.0	165,980	5	1,906,220 " " " " " "	1,261,506 " " " " " "
1931	313,884	85.0	266,801	6	2,173,021 " " " " " "	1,115,526 " " " " " "
1930	410,699	75.0	308,024	7	2,481,045 " " " " " "	848,725 " " " " " "
1929	527,057	55.0	289,881	8	2,770,926 " " " " " "	540,701 " " " " " "
1928	341,123	34.5	117,687	9	2,888,613 " " " " " "	250,820 " " " " " "
1927	327,965	19.0	62,313	10	2,950,926 " " " " " "	133,133 " " " " " "
1926	385,997	10.0	38,600	11	2,989,526 " " " " " "	70,820 " " " " " "
1925	418,000†	5.0	20,900	12	3,010,426 " " " " " "	32,220 " " " " " "
1924	340,000†	2.3	7,820	13	3,018,246 " " " " " "	11,320 " " " " " "
1923	350,000†	1.0	3,500	14	3,021,746 " " " " " "	3,500 " " " " " "

† Partly Estimated.

* These figures are purely a statistical approximation calculated from a life curve applicable to passenger cars. Frankly, COMMERCIAL CAR JOURNAL has no authentic data as to the life expectancy of trucks. However, if trucks last longer than passenger cars then the conclusions are conservative. If they do not last as long then the conclusions are generous. COMMERCIAL CAR JOURNAL has a feeling that the industry will consider them conservative. If any readers have made studies along these lines, we would appreciate hearing from them.



Illustrations on opposite page (reading from top down) are of International, Chevrolet, Mack Jr., Studebaker. On this page: Top left—Diamond T. Top right—White. Center—Mack. Above—Stewart

New Truck Registrations by States*

	1928	1929	1930	1931	1932	1933	1934	1935	1936
Alabama.....	6,301	10,456	6,186	3,536	1,982	4,054	8,051	9,925	13,187
Arizona.....	1,574	3,061	1,899	1,295	596	1,066	2,167	3,126	3,510
Arkansas.....	3,167	7,911	3,478	2,613	1,467	3,638	4,960	7,383	9,485
California.....	17,439	30,635	26,930	19,992	10,732	13,788	20,496	28,943	33,656
Colorado.....	3,581	6,382	5,840	3,887	2,001	2,468	5,196	6,086	9,060
Connecticut.....	6,369	7,628	5,920	5,540	3,056	4,246	6,124	7,318	8,240
Delaware.....	984	1,444	1,205	967	597	828	1,115	1,425	1,723
Dist. of Col.....	1,463	2,328	1,850	2,202	1,368	1,362	1,979	2,492	2,940
Florida.....	3,473	5,395	6,121	5,255	2,894	4,186	8,046	8,274	9,412
Georgia.....	3,770	6,768	4,998	4,779	2,544	5,280	7,921	10,887	12,941
Idaho.....	1,678	2,572	2,389	1,620	673	1,545	2,817	4,004	4,939
Illinois.....	17,731	26,584	20,037	14,786	7,663	11,764	17,584	23,946	31,123
Indiana.....	9,582	14,462	10,534	9,025	4,849	6,121	11,123	18,009	20,027
Iowa.....	8,597	11,445	10,038	7,899	4,154	5,449	9,860	12,754	12,999
Kansas.....	4,809	12,648	9,298	5,550	3,119	4,292	7,170	9,605	11,406
Kentucky.....	4,522	6,037	5,366	4,326	2,619	4,195	6,615	9,089	10,970
Louisiana.....	3,431	7,314	4,705	4,311	1,544	2,882	5,359	7,201	9,753
Maine.....	2,953	4,785	4,521	4,600	2,240	2,614	4,282	4,104	5,337
Maryland.....	4,682	7,055	6,038	4,864	2,953	3,816	5,457	6,657	7,382
Massachusetts.....	11,809	16,989	13,711	12,609	7,290	9,511	12,887	14,514	15,350
Michigan.....	16,638	25,585	15,818	10,722	6,402	9,065	16,281	21,104	24,840
Minnesota.....	7,395	11,282	10,292	7,580	4,858	5,722	9,255	12,740	14,144
Mississippi.....	2,600	6,977	5,518	2,137	1,476	2,752	5,414	6,573	10,367
Missouri.....	9,682	16,047	14,844	10,979	7,645	8,535	12,920	16,200	20,142
Montana.....	4,102	4,338	2,896	1,874	1,150	2,065	4,215	5,939	5,930
Nebraska.....	5,315	8,144	6,957	4,540	2,108	2,713	5,411	6,297	6,996
Nevada.....	323	934	635	648	320	233	638	1,006	1,210
New Hampshire.....	1,576	2,491	2,290	2,038	1,152	1,783	2,731	2,490	3,196
New Jersey.....	13,842	17,567	14,764	13,051	7,505	7,401	11,444	13,165	16,935
New Mexico.....	1,300	2,157	2,006	1,560	817	1,395	3,150	4,058	4,545
New York.....	34,132	46,984	38,951	32,792	19,943	20,200	30,383	35,805	39,159
North Carolina.....	7,101	9,618	6,483	6,821	3,620	6,597	11,185	13,835	14,286
North Dakota.....	4,267	4,144	2,419	1,436	786	1,107	2,389	3,144	2,680
Ohio.....	19,068	27,338	20,111	14,291	8,753	11,150	20,487	22,772	30,028
Oklahoma.....	6,279	12,937	8,112	4,060	2,694	4,941	8,944	11,768	14,737
Oregon.....	2,941	5,819	4,193	3,099	1,451	2,488	3,780	5,964	8,050
Pennsylvania.....	25,065	37,258	30,120	23,396	15,618	19,991	29,891	32,097	41,919
Rhode Island.....	1,918	2,953	2,116	2,027	1,152	1,598	2,035	2,088	2,594
South Carolina.....	2,932	4,760	3,709	2,959	1,213	2,604	4,228	5,481	6,091
South Dakota.....	3,555	4,160	3,093	1,673	704	996	2,252	3,020	2,962
Tennessee.....	3,618	5,851	5,087	3,285	2,031	3,623	6,366	9,518	11,062
Texas.....	19,886	33,361	22,237	16,742	8,619	13,889	24,854	32,437	38,903
Utah.....	1,346	2,610	2,216	1,691	756	1,698	2,530	3,499	3,571
Vermont.....	1,484	2,027	1,670	1,339	972	1,311	2,048	2,394	2,308
Virginia.....	6,055	9,898	8,917	6,823	4,105	5,667	8,508	11,402	12,904
Washington.....	4,423	8,325	6,680	4,640	2,471	4,002	6,199	9,076	10,666
West Virginia.....	3,536	5,299	4,551	3,552	1,844	2,868	5,847	6,646	9,181
Wisconsin.....	9,541	14,393	12,058	8,399	4,522	5,411	9,313	13,118	16,237
Wyoming.....	1,088	1,481	1,182	1,174	613	937	1,799	2,206	2,661
Total.....	341,123	527,057	410,699	313,884	180,413	245,669	403,686	510,683	611,644

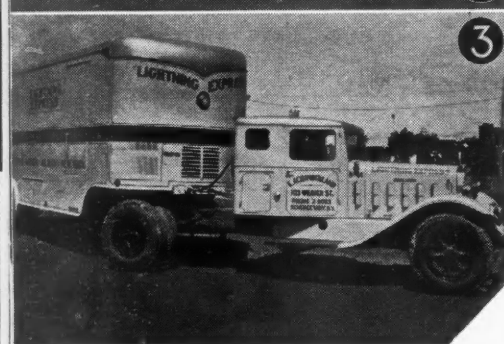
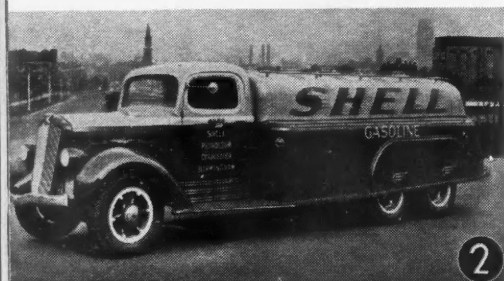
* Data from R. L. Polk & Co.

Truck Registrations by Capacities*

	UNITS.		PER CENT OF TOTAL.			
	1934	1935	1936	1934	1935	1936
1/4-ton or less.....	763,350	932,205	1,127,662	22.39	25.50	28.33
1-ton and less than 1 1/2.....	618,112	861,549	1,127,647	18.13	9.89	2.83
1 1/2-ton and less than 2.....	1,703,845	2,046,096	2,401,407	49.97	55.97	60.33
2-ton and less than 2 1/2.....	131,941	130,874	140,112	3.87	3.56	3.52
2 1/2-ton and less than 3.....	107,735	103,822	99,909	3.16	2.84	2.51
3-ton and less than 3 1/2.....	32,048	31,439	32,640	.94	.86	.82
3 1/2-ton and less than 4.....	52,504	49,718	66,075	1.54	1.36	1.66
4-ton and over.....	3,409,336	3,655,705	3,980,452	100.00	100.00	100.00

* Estimated on basis of eight (8) year average production by capacities. This average percentage was then applied to total truck registrations as of the end of each year.

(Continued on Next Page)



Illustrations are (1) Heil 900 gal. truck tank; (2) White model 704 with 1000 gal. tank; (3) Federal model; (4) Warford V8 with two-axle drive; (5) Studebaker; (6) Dodge; (7) Ford tractor and Highway trailer with 24-ft. body

Truck Registrations by Years (1904-1936)

Year	Registrations	% gain
1904	410	
1905	600	46
1906	1,100	83
1907	1,700	55
1908	3,100	82
1909	6,050	95
1910	10,000	65
1911	20,000	100
1912	41,400	107
1913	63,800	54
1914	85,600	34
1915	136,000	59
1916	215,000	58
1917	326,000	52
1918	525,000	61
1919	794,372	51
1920	1,006,082	27
1921	1,117,100	11
1922	1,375,725	23
1923	1,612,569	17
1924	2,134,724	32
1925	2,440,854	14
1926	2,764,222	13
1927	2,914,019	5
1928	3,113,999	7
1929	3,379,854	8
1930	3,486,019	3
1931	3,466,571	-6
1932	3,229,315	-7
1933	3,227,357	-06
1934	3,409,335	5.5
1935	3,655,705	7.1
1936	3,980,452	9.0

TRUCK INDUSTRY

Vital

STATISTICS

New Truck Registrations by Makes-UNITS

Year	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Autocar	2,062	2,261	2,941	2,009	1,748	1,015	1,127	1,139	1,001	1,451
Brockway	1,875	3,645*	4,533*	3,780*	1,685*	752	875	1,213	1,245	1,695
Chevrolet	104,717	133,795	160,892	118,253	99,600	60,784	99,880	157,507	167,129	204,344
Diamond T	1,855	2,308	3,590	2,888	2,483	2,250	4,139	5,440	6,454	8,750
Dodge	42,340	36,570	28,567	15,558	13,518	8,744	28,634	48,252	61,488	85,295
Federal	3,852	3,118	2,853	2,095	1,523	1,167	1,360	1,962	2,190	2,930
Ford	99,416	65,260	223,405	197,216	138,854	66,937	62,387	128,250	185,848	177,244
G. M. C.	6,683	17,506	14,248	9,004	6,919	6,359	6,602	10,449	11,442	25,980
Indiana	1,163					957	1,252	729	862	1,705
International	16,356	26,159	31,434	23,703	21,073	15,752	26,658	31,555	53,471	71,958
Mack	6,269	6,890	6,823	4,943	2,945	1,425	1,652	1,830	1,515	4,226
Reo	10,351	16,325	12,894	6,427	5,166	3,187	3,042	5,035	5,101	4,227
Sterling	716	1,041	1,577	1,224	739	227	108	134	174	277
Stewart	1,539	1,964	2,163	2,315	1,394	867	684	736	880	1,280
Studebaker		997	1,661	1,518	3,495	2,430	2,407†	1,697	2,100	3,279
White	7,120	6,260	6,121	4,395	2,561	2,138	1,384	3,963	3,304	5,757
Willys		2,240	6,536	4,264	3,131	1,132	233	25	2,280	2,441
All Others	21,651	14,784	16,819	11,107	7,050	4,290	4,035	3,970	4,199	7,805
Total	327,965	341,123	527,057	410,699	313,884	180,413	245,869	403,886	510,683	611,644

* Includes Indiana.

† Includes Rockne.

§ Graham Bros.

New Truck Registrations by Makes-PER CENT of TOTAL

Year	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Autocar	.63	.66	.56	.49	.56	.56	.46	.28	.20	.24
Brockway	.57	1.07	.66	.82	.54	.42	.36	.30	.24	.28
Chevrolet	31.93	39.22	30.53	28.79	31.74	33.69	40.62	38.99	32.73	33.41
Diamond T	.57	.68	.68	.70	.79	1.25	1.68	1.35	1.26	1.43
Dodge	12.91	10.72	5.42	3.79	4.31	4.85	11.40	11.94	12.04	13.95
Federal	1.17	.91	.54	.51	.48	.65	.55	.49	.43	.48
Ford	30.31	19.13	42.39	48.02	44.25	37.10	25.36	31.76	36.39	28.96
G. M. C.	2.04	5.13	2.70	2.19	2.20	3.52	2.69	2.59	2.24	4.41
Indiana	.35					.53	.51	.18	.17	.28
International	4.99	7.67	5.96	5.77	6.72	8.73	10.84	7.81	10.47	11.76
Mack	1.91	2.02	1.29	1.21	.94	.79	.67	.45	.30	.69
Reo	3.16	4.79	2.45	1.56	1.65	1.77	1.24	1.25	1.00	.69
Sterling	.22	.30	.30	.30	.23	.13	.04	.03	.03	.04
Stewart	.47	.58	.41	.56	.44	.48	.28	.18	.17	.21
Studebaker		.29	.32	.37	1.11	1.35	.98	.42	.41	.54
White	2.17	1.84	1.16	1.07	.82	1.19	.56	.96	.65	.94
Willys		.66	1.24	1.04	1.00	.63	.09	.01	.45	.40
All Others	6.60	4.33	3.19	2.71	2.22	2.36	1.65	.98	.82	1.27
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

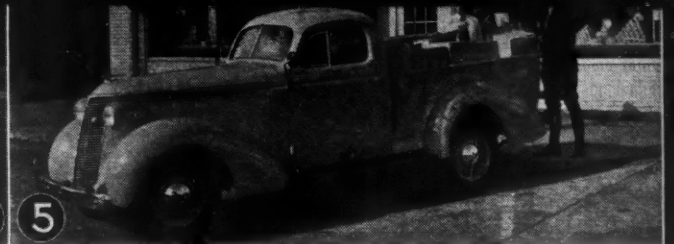
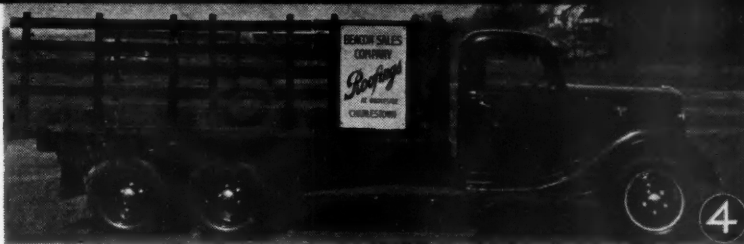
New Truck Registrations by Months (U. S.)*

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
January	27,567	16,431	29,900	30,236	24,415	14,776	11,709	22,903	34,759	43,760
February	28,437	17,510	32,637	31,880	23,466	14,558	9,707	24,476	34,797	40,301
March	33,539	24,696	46,368	42,199	30,609	16,874	9,934	33,884	41,511	52,430
April	37,264	30,272	56,299	47,029	36,848	17,784	17,301	38,882	46,785	64,957
May	33,966	32,468	52,874	43,296	33,496	18,696	20,925	39,831	47,968	62,183
June	28,495	29,155	45,114	33,531	29,496	17,676	23,254	34,788	48,243	56,851
July	28,359	31,844	57,943	39,904	30,102	14,731	30,642	37,490	51,243	63,295
August	28,156	36,753	52,557	33,767	27,070	15,081	28,789	40,790	50,355	59,222
September	24,436	35,135	46,560	33,933	25,967	14,967	31,269	37,225	41,390	54,611
October	27,231	40,890	49,899	34,237	24,685	15,156	28,058	40,878	37,439	41,207
November	18,834	27,491	33,631	22,012	15,553	10,392	18,691	28,689	36,935	30,222
December	11,681	18,476	23,275	18,665	13,177	9,522	15,580	24,070	39,258	42,205
Total	327,965	341,123	527,057	410,699	313,884	180,413	245,869	403,886	510,683	611,644

* Data from R. L. Polk & Co.

Truck Production by Months and Years (U. S. and Canada)

Year	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
January	44,382	27,947	57,765	40,938	35,475	21,180	19,429	44,870	64,529	67,771
February	46,014	34,980	65,950	52,925	41,863	24,291	15,592	44,852	63,204	65,205
March	54,168	44,273	79,587	69,031	47,671	21,274	16,508	61,065	70,520	80,981
April	53,280	49,537	91,855	74,477	53,138	28,539	27,976	67,532	69,338	80,346
May	52,435	55,281	94,940	62,080	47,805	27,481	35,132	60,346	59,324	78,675
June	46,990	44,169	98,164	51,466	41,496	23,572	43,446	46,222	65,785	80,335
July	33,853	59,630	78,703	44,960	35,386	15,137	39,310	44,546	61,582	70,880
August	36,796	69,547	59,985	43,296	32,890	15,319	42,601	53,890	58,942	73,146
September	36,448	62,231	54,663	46,557	31,676	20,003	35,874	46,335	33,229	46,707
October	38,152	63,921	66,235	41,928	22,406	14,167	30,772	49,643	60,203	34,709
November	26,102	45,013	50,368	37,493	20,118	12,560	19,106	35,107	60,720	54,180
December	28,400	32,054	28,582	34,840	24,052	21,782	30,801	42,614	64,629	76,571
Total	497,020	588,983	826,817	599,991	434,178	245,285	358,548	599,397	732,005	809,486



Trailer Registrations, 1928-1936

(Includes Passenger Car Trailers)

STATES	1928	1929	1930	1931	1932	1933	1934	1935	1936
Alabama	1,952	3,024	3,550	3,279	3,948	4,007	4,671	5,586	4,353
Arizona	809	1,249	1,346	1,623	1,765	1,989	2,313	2,835	3,302
Arkansas	2,054	2,808	2,805	3,745	3,118	6,887	7,950	9,398	10,746
California	37,073	42,899	48,532	55,024	61,870	72,696	82,110	95,233	111,062
Colorado	85	159	188	258	563	832	946	968	1,410
Connecticut	224	324	480	926	1,384	1,816	2,370	3,092	4,019
Delaware	301	389	412	517	649	912	1,356	1,883	2,227
Florida	1,004	900	5,600	6,751	7,522	9,567	9,886	11,256	13,472
Georgia	816	2,597	2,704	3,317	4,021	5,836	9,293	10,823	11,903
Idaho	264	485	450	7,558	9,924	10,039	11,733	12,925	13,000
Illinois	3,742	5,068	7,341	9,283	8,950	9,228	10,720	14,439	18,408
Indiana	7,884	10,407	13,646	19,169	23,570	27,996	34,425	43,013	52,591
Iowa	230	528	1,542	3,207	2,833	2,416	44,477	50,244	4,856
Kansas	359	360	1,083	1,778	2,014	3,847	3,733	4,045	5,070
Kentucky	6	6	6	6	6	6	6	6	6
Louisiana	4,000	8,000	5,443	5,670	6,624	6,957	6,528	9,196	12,315
Maine	1,668	1,652	2,207	3,053	4,195	5,893	7,578	8,464	8,841
Maryland	683	876	1,008	1,128	1,327	1,383	1,434	1,750	3,224
Massachusetts	547	556	701	650	525	525	752	507	10,405
Michigan	23,198	31,577	44,441	61,932	77,437	78,998	92,184	102,975	120,009
Minnesota	3,894	4,783	9,541	18,291	21,839	19,648	24,707	24,260	26,569
Mississippi	2,919	4,321	3,890	2,56	2,594	850	707	809	1,237
Missouri	2,004	2,686	3,742	5,469	10,008	13,110	18,024	22,550	26,821
Montana			56	59	61	483	506	2,256	1,829
Nebraska	2,975	6,515	10,320	15,737	13,531	14,727	18,640	20,461	1,472
Nevada	178	273	330	411	846	631	910	847	1,053
New Hampshire	545	635	935	1,137	1,448	1,922	2,354	3,173	4,000
New Jersey	1,996	2,424	2,639	2,916	2,863	3,162	3,734	4,431	5,645
New Mexico	340	509	850	778	591	983	918	889	2,034
New York	7,148	8,232	10,205	12,596	13,796	13,545	17,417	23,451	31,098
North Carolina	1,944	3,584	5,845	8,118	7,774	13,012	20,649	29,389	32,000
North Dakota			6	39	143	263	215	517	
Ohio	14,606	15,000	24,356	32,717	45,586	61,156	73,287	95,216	103,306
Oklahoma			6	6	6	4,184	5,420	6,452	6,960
Oregon	1,238	1,308	1,893	2,168	1,706	1,750	1,276	3,558	4,853
Pennsylvania	4,285	5,067	5,684	6,307	7,635	10,139	13,642	19,732	24,737
Rhode Island	61	67	90	64	68	92	147	216	399
South Carolina	1,637	2,048	2,976	2,100	2,041	1,764	1,919	2,759	3,181
South Dakota			7	4,984	8,852	9,693	10,128	12,568	19,349
Tennessee			7	2,696	3,294	2,982	2,991	836	1,000
Texas	11,955	16,260	29,853	33,861	35,113	36,073	36,978	38,262	41,660
Utah			7	767	879	457	1,359	1,226	1,100
Vermont	218	280	315	457	519	683	964	1,321	1,450
Virginia	646	966	1,318	1,582	1,673	1,906	2,509	3,694	6,240
Washington	2,279	2,986	3,147	3,000	4,543	4,849	5,470	7,776	12,059
West Virginia	600	725	928	1,270	1,785	2,094	1,084	2,189	2,277
Wisconsin	412	487	715	1,007	1,066	2,565	5,466	7,610	4,875
Wyoming			6			20	5,398	7,279	8,542
Dist. of Col.					607	1,112	1,169	1,377	1,815
Totals	148,169	193,044	262,507	349,930	412,998	475,559	615,315	733,414	789,293

1—Light trailers only. Heavy trailers reported with trucks. 2—Contract and common carrier trailers reported with trucks. 3—Estimated and excluded from motor trucks as reported. 4—Reported with tractors, but here separated as per semi-annual report. 5—Not registered. 6—Classified with trucks. 7—Not reported. 8—Estimated.

Truck Production by Capacities—Units

(U. S. and Canada)

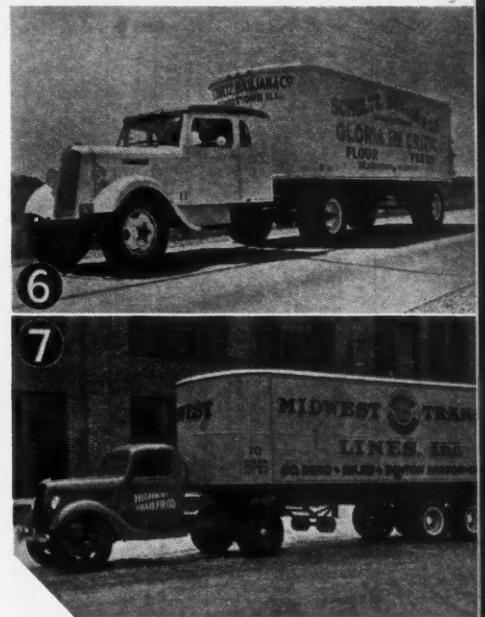
	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936*
¾ ton or less	88,046	95,232	141,859	144,869	109,220	79,127	99,028	172,089	249,957	308,457
1 ton and less than 1½	319,637	313,270	78,786	31,026	4,899	1,618	893	2,341	2,259	8,483
1½ ton and less than 2	29,107	112,171	523,691	370,541	289,418	144,113	228,238	376,475	420,597	425,766
2 ton and less than 2½	27,313	30,456	26,416	16,477	8,516	7,820	15,866	25,995	28,950	30,111
2½ ton, less than 3½	16,584	21,813	33,530	22,887	11,516	6,006	7,728	11,136	10,465	12,417
3½ ton and less than 5	4,471	4,746	6,643	6,412	4,532	2,689	2,859	4,752	3,612	4,239
5 ton	4,128	2,219	2,384	1,094	906	1,407	580	1,219		
Over 5 ton and special types	7,734	9,076	9,508	6,683	5,169	2,705	3,356	5,390	16,166	20,013
Total	497,020	586,983	826,817	599,991	434,176	245,295	358,548	599,397	732,005	809,486

Truck Production by Capacities—Per Cent

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936*
¾ ton or less	17.7	16.2	17.1	24.0	25.2	32.3	27.6	28.6	34.1	38.1
1 ton and less than 1½	64.3	53.2	9.5	5.2	1.1	.6	.2	.4	.3	1.1
1½ ton and less than 2	5.9	19.0	63.4	61.7	66.6	58.8	63.7	62.0	57.5	52.6
2 ton and less than 2½	5.5	5.2	3.4	2.7	2.0	3.1	4.4	4.3	4.0	3.7
2½ ton and less than 3½	3.3	3.7	4.1	3.8	2.7	2.4	2.2	1.9	1.4	1.5
3½ ton and less than 5	.9	.8	1.0	1.0	1.0	1.1	.8	.8	.5	.5
5 ton	.8	.4	.3	.2	.2	.6	.2	.2		
Over 5 ton and special types	1.6	1.5	1.2	1.4	1.2	1.1	.9	.9	2.2	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Partly estimated.

COMMERCIAL CAR JOURNAL
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Truck Production and Its Wholesale Value (U. S. and Canada)

	Number†	Value†
1900		
1901		
1902		
1903		
1904	411	\$946,947
1905	450	970,000
1906	500	1,050,000
1907	700	1,360,000
1908	1,500	2,550,000
1909	3,255	5,230,023
1910	6,000	9,660,000
1911	10,681	21,000,000
1912	22,000	43,000,000
1913	23,500	44,000,000
1914	25,375	45,098,464
1915	74,000	125,800,000
1916	92,130	161,000,000
1917	128,157	220,982,668
1918	227,250	434,168,992
1919	275,943	423,326,621
1920	321,789	423,249,410
1921	164,304	169,914,098
1922	277,140	231,282,063
1923	426,505	317,478,940
1924	434,140	326,706,496
1925	557,056	470,634,763
1926	556,818	468,752,769
1927	497,020	435,072,641
1928	588,983	459,045,380
1929	826,817	595,504,039
1930	599,991	405,949,915
1931	434,176	272,748,305
1932	245,282	142,264,003
1933	358,548	192,131,509
1934	599,397	332,913,985
1935	732,005	399,211,522
1936	809,486	455,000,000

Foreign assemblies of parts made in U. S. but assembled abroad are included in this table.

† Figures for 1921 to date are "factory sales" for U. S. plants and "production" for Canadian plants.

‡ Substantial part of the trucks reported comprises chassis only, without body; hence the value of bodies for these chassis is not included.

FOR-HIRE TRUCKING

Census

CENSUS OF BUSINESS
MOTOR TRUCKING FOR HIRE: 1935
UNITED STATES SUMMARY
TABLE 1 CONCERNS, VEHICLES, REVENUE, PERSONNEL, AND EXPENSES, BY STATES

STATE	Number of Concerns	Number of Vehicles	Revenue	Active Proprietors	Employees 1/	Pay Roll 2/			Other Expenses
						Total	Full-time	Part-time	
			(add 000)		(add 000)				(add 000)
UNITED STATES TOTAL	61,216	186,809	\$330,860	59,621	158,283	\$179,465	\$165,015	\$14,470	\$243,127
Alabama	799	1,650	3,117	707	1,460	872	775	97	1,191
Arizona	105	509	1,677	102	599	607	546	59	782
Arkansas	606	1,355	2,393	604	977	625	567	58	1,041
California	1,769	12,998	41,816	1,780	11,505	15,472	14,476	996	10,921
Colorado	490	1,430	4,317	490	1,296	1,471	1,359	112	2,003
Connecticut	539	2,219	10,233	492	2,144	4,015	3,667	348	4,744
Delaware	484	615	1,120	425	500	235	191	44	445
District of Columbia	56	563	1,384	48	619	655	630	25	505
Florida	277	1,194	3,455	255	1,509	1,291	1,221	70	1,585
Georgia	898	1,830	3,407	846	1,648	952	852	100	1,494
Iaho	509	1,044	2,743	530	606	715	635	80	1,201
Illinois	3,148	13,260	36,010	3,124	11,353	14,025	12,884	1,199	16,399
Indiana	3,934	6,180	17,064	3,655	4,584	4,811	4,443	368	7,929
Iowa	4,361	6,811	12,146	4,457	2,873	2,809	1,916	893	5,322
Kansas	1,079	2,395	5,473	1,087	1,695	1,434	1,273	161	2,465
Kentucky	2,660	4,681	9,547	2,704	3,157	2,545	2,392	151	4,138
Louisiana	516	1,832	3,612	478	1,980	1,363	1,131	232	1,397
Maine	459	1,004	2,415	436	714	714	623	91	969
Maryland	613	2,690	6,474	599	2,865	2,997	2,691	306	4,005
Massachusetts	1,736	6,715	25,762	1,609	7,833	10,304	9,604	700	11,054
Michigan	1,230	11,503	37,326	1,175	9,484	12,639	12,174	665	19,360
Minnesota	2,976	5,834	12,759	3,027	3,490	3,451	3,115	336	5,430
Mississippi	1,163	1,802	2,130	1,102	1,035	430	356	80	766
Missouri	2,756	9,461	23,898	2,631	7,293	6,388	7,922	406	11,208
Montana	338	660	2,351	356	619	714	647	67	1,020
Nebraska	2,140	4,079	7,742	2,144	2,061	1,733	1,537	196	2,856
Nevada	87	180	318	79	102	141	116	25	245
New Hampshire	385	715	1,482	380	421	372	324	48	597
New Jersey	1,537	5,277	17,252	1,500	5,154	6,810	6,063	547	7,500
New Mexico	64	339	1,404	56	372	391	353	38	594
New York	4,731	17,123	61,854	4,433	17,775	26,245	22,024	2,221	27,820
North Carolina	710	2,295	6,909	659	2,320	2,016	1,894	120	3,368
North Dakota	459	718	1,347	464	353	315	289	27	543
Ohio	3,059	13,411	41,235	2,847	11,025	15,851	13,016	835	20,664
Oklahoma	641	2,539	6,998	625	2,072	2,044	1,733	311	3,528
Oregon	345	1,785	7,054	310	2,113	2,787	2,604	183	3,190
Pennsylvania	2,976	9,779	28,598	2,930	9,925	9,819	9,119	700	12,534
Rhode Island	110	773	2,305	89	1,035	1,149	1,038	111	1,038
South Carolina	374	1,085	2,373	344	949	695	628	67	1,085
South Dakota	698	1,170	2,316	704	633	474	419	55	1,119
Tennessee	1,674	5,269	9,599	1,629	2,752	2,851	2,125	126	4,860
Texas	1,462	5,395	15,369	1,429	5,987	5,472	5,107	365	6,962
Utah	444	777	2,246	456	463	469	442	27	1,112
Vermont	673	1,152	2,318	676	639	500	453	47	952
Virginia	928	2,322	6,662	871	2,115	1,921	1,793	128	3,262
Washington	795	2,932	9,654	742	2,565	3,170	3,170	0	4,431
West Virginia	940	1,068	2,904	910	1,300	1,117	1,000	117	1,205
Wisconsin	2,707	6,259	15,398	2,664	4,102	4,194	3,691	453	6,492
Wyoming	250	742	1,590	402	343	331	285	46	661

CENSUS OF BUSINESS
MOTOR TRUCKING FOR HIRE: 1935
UNITED STATES SUMMARY
TABLE 2 CONCERNS, VEHICLES, REVENUE, PERSONNEL, AND EXPENSES, BY KIND OF TRUCKING

REGION	KIND OF TRUCKING	Number of Concerns	Number of Vehicles	Revenue	Active Proprietors	Employees 1/	Pay Roll 2/			Other Expenses
							Total	Full-time	Part-time	
				(add 000)		(add 000)				(add 000)
UNITED STATES TOTAL		61,216	186,809	\$330,860	59,621	158,283	\$179,465	\$165,015	\$14,470	\$243,127
NEW ENGLAND	Local	45,685	96,869	\$64,127	44,821	66,516	70,717	61,696	9,021	78,384
	Intrastate	10,217	48,692	131,017	9,963	37,561	42,473	39,897	2,575	61,064
	Interstate	5,314	49,948	195,716	4,817	58,295	66,890	63,482	3,403	102,999
MIDDLE ATLANTIC	Local	3,904	12,578	44,717	3,704	13,618	17,134	15,684	1,450	19,334
	Intrastate	2,960	6,036	15,757	2,868	6,443	4,769	3,945	824	5,159
	Interstate	585	2,365	8,599	490	2,739	3,430	3,223	212	3,536
EAST NORTH CENTRAL	Local	4,731	17,123	61,854	4,433	17,775	26,245	22,024	2,221	27,820
	Intrastate	1,079	2,395	5,473	1,087	1,695	1,434	1,273	161	2,465
	Interstate	516	1,832	3,612	478	1,980	1,363	1,131	232	1,397
WEST NORTH CENTRAL	Local	2,976	5,834	12,759	3,027	3,490	3,451	3,115	336	5,430
	Intrastate	1,163	1,802	2,130	1,102	1,035	430	356	80	766
	Interstate	2,756	9,461	23,898	2,631	7,293	6,388	7,922	406	11,208
SOUTH ATLANTIC	Local	338	660	2,351	356	619	714	647	67	1,020
	Intrastate	2,140	4,079	7,742	2,144	2,061	1,733	1,537	196	2,856
	Interstate	87	180	318	79	102	141	116	25	245
EAST SOUTH CENTRAL	Local	444	777	2,246	456	463	469	442	27	1,112
	Intrastate	673	1,152	2,318	676	639	500	453	47	952
	Interstate	928	2,322	6,662	871	2,115	1,921	1,793	128	3,262
MOUNTAIN	Local	795	2,932	9,654	742	2,565	3,170	3,170	0	4,431
	Intrastate	940	1,068	2,904	910	1,300	1,117	1,000	117	1,205
	Interstate	2,707	6,259	15,398	2,664	4,102	4,194	3,691	453	6,492
PACIFIC	Local	250	742	1,590	402	343	331	285	46	661
	Intrastate	459	718	1,347	464	353	315	289	27	543
	Interstate	3,059	13,411	41,235	2,847	11,025	15,851	13,016	835	20,664

CENSUS OF BUSINESS
MOTOR TRUCKING FOR HIRE: 1935
UNITED STATES SUMMARY
TABLE 3 CONCERNS, VEHICLES, REVENUE, PERSONNEL, AND EXPENSES, BY REVENUE SIZE GROUP

REGION	Number of Concerns	Number of Vehicles	Revenue	Active Proprietors	Employees 1/	Pay Roll 2/	Part-time	Other Expenses
REVENUE SIZE GROUP		(add 000)	(add 000)		Avg. less 1/	(add 000)	Full-time	(add 000)
UNITED STATES TOTAL	61,216	186,809	\$330,860	59,621	158,283	\$179,465	\$165,015	\$14,470
\$243,127								
Under \$1,000	19,516	21,028	10,806	19,273	2,848	469	808	281
1,000-4,999	16,776	20,030	23,364	16,788	5,365	1,861	964	897
5,000-9,999	13,868	22,702	39,465	13,669	12,569	6,736	4,443	2,293
10,000-24,999	4,499	13,635	30,720	4,780	11,100	5,313	6,478	1,035
25,000-49,999	3,575	19,779	55,253	3,894	19,408	16,785	16,029	2,756
50,000-99,999	1,660	16,997	57,882	1,169	16,576	21,746	19,905	1,941
100,000-249,999	1,018	18,956	70,852	545	21,539	27,317	25,794	1,583
250,000-499,999	630	22,714	95,892	197	27,284	37,398	35,951	1,447
500,000 and over	178	14,367	61,621	35	16,933	24,007	25,160	947
	96	16,674	85,527	1	23,241	32,635	32,183	650
NEW ENGLAND	3,904	12,578	44,717	3,704	13,618	17,134	15,684	1,450
19,334								
Under \$1,000	1,970	2,828	1,911	1,940	441	180	80	100
1,000-4,999	1,899	2,320	5,345	1,890	1,975	1,366	951	455
5,000-9,999	479	2,788	9,890	419	3,348	3,723	3,821	462
10,000-24,999	145	2,861	15,478	49	4,576	6,562	6,220	546
25,000-49,999	21	2,831	12,003	6	5,976	5,863	5,172	111
50,000 and over								
MIDDLE ATLANTIC	3,844	32,179	107,704	3,823	31,684	40,674	36,990	3,684
47,754								
Under \$1,000	3,888	4,460	3,788	3,951	901	309	118	105
1,000-4,999	3,001	6,088	12,779	3,152	4,431	3,855	2,231	1,034
5,000-9,999	863	4,806	13,536	660	4,543	5,072	4,336	736
10,000-49,999	452	4,147	15,646	293	4,973	6,391	5,707	694
50,000-99,999	254	3,968	17,548	143	4,674	6,886	6,512	374
100,000-249,999	138	4,300	20,294	41	5,407	8,305	8,003	358
250,000-499,999	37	2,635	12,300	3	3,309	5,037	4,602	235
500,000 and over	11	2,375	11,723	—	3,546	5,335	5,251	84
EAST NORTH CENTRAL	14,072	52,613	147,053	13,665	40,548	46,468	45,148	3,500
71,834								
Under \$1,000	8,865	9,750	8,039	8,708	1,296	430	204	285
1,000-4,999	3,506	6,711	14,132	3,566	4,514	2,996	2,105	891
5,000-9,999	744	4,370	12,506	678	4,064	4,093	5,454	659
10,000-24,999	350	3,940	12,177	243	3,846	4,707	4,267	440
25,000-49,999	238	5,473	16,631	136	5,041	6,510	6,110	400
50,000-99,999	166	6,743	24,387	57	6,638	9,365	9,020	305
100,000-249,999	61	5,557	21,293	31	5,468	8,169	7,971	317
250,000-499,999	42	2,869	36,588	1	6,661	13,399	13,137	262
500,000 and over								
WEST NORTH CENTRAL	14,471	50,468	65,663	14,484	16,398	17,944	16,470	1,474
59,643								
Under \$1,000	9,610	10,671	9,487	9,571	1,540	477	237	840
1,000-4,999	4,082	6,743	14,761	4,870	4,097	2,361	1,612	569
5,000-9,999	480	4,188	6,971	431	2,166	1,901	1,638	249
10,000-49,999	288	1,095	5,912	134	2,282	2,096	1,948	147
50,000-99,999	102	2,181	17,189	31	3,315	4,818	4,516	138
100,000-249,999	65	2,719	10,026	26	3,074	3,947	3,861	86
250,000 and over	25	2,941	11,727	1	3,222	4,368	4,343	45
SOUTH ATLANTIC	5,216	14,254	\$36,138	4,939	15,686	\$11,079	\$10,900	\$979
\$17,415								
Under \$1,000	3,139	3,665	2,801	3,035	1,208	331	197	134
1,000-4,999	1,287	3,343	3,185	1,518	2,773	1,451	1,112	539
5,000-9,999	296	1,857	4,643	271	1,905	1,361	1,188	173
10,000-24,999	108	1,127	5,671	49	1,218	1,605	1,488	101
25,000-49,999	68	1,233	5,643	31	1,998	1,762	1,598	94
50,000-99,999	44	1,620	6,469	12	2,066	2,289	2,291	38
100,000-249,999	16	1,859	9,876	3	2,764	3,350	3,389	141
250,000 and over								
EAST SOUTH CENTRAL	6,316	11,388	\$2,401	6,141	8,424	6,104	5,650	654
\$10,357								
Under \$1,000	4,566	5,151	4,047	4,475	1,250	326	197	129
1,000-4,999	1,474	2,627	2,256	1,458	2,168	987	871	311
5,000-9,999	288	1,095	5,912	134	2,282	719	660	291
10,000-49,999	92	491	1,773	36	719	594	570	86
50,000-99,999	28	446	1,753	8	697	693	670	85
100,000-249,999	17	697	2,994	3	952	1,082	1,000	28
250,000 and over	11	1,119	5,098	4	1,683	1,795	1,797	18
WEST SOUTH CENTRAL	3,225	11,169	\$7,992	3,134	11,016	9,504	8,539	966
\$12,822								
Under \$1,000	1,929	2,369	1,684	1,921	655	151	82	66
1,000-4,999	879	1,120	3,491	881	1,646	634	663	191
5,000-9,999	289	2,828	6,288	261	2,510	2,032	1,736	296
10,000-49,999	75	1,802	5,188	48	1,999	1,843	1,809	154
50,000-99,999	40	1,749	6,031	18	2,419	2,474	2,237	283
100,000-249,999	13	1,193	5,390	5	1,870	2,070	2,011	59
250,000 and over								
MOUNTAIN	2,439	5,081	16,476	2,471	4,366	4,859	4,326	477
7,646								
Under \$1,000	1,251	1,533	1,361	1,363	206	71	31	40
1,000-4,999	803	1,567	3,177	847	697	994	497	167
5,000-9,999	225	1,394	2,085	234	1,333	1,469	1,387	142
10,000-49,999	38	544	2,456	18	744	922	855	67
50,000 and over	23	941	4,797	9	1,877	1,803	1,745	98
PACIFIC	2,929	17,665	50,836	2,840	16,183	21,739	20,250	1,489
26,542								
Under \$1,000	954	1,221	1,012	937	222	121	85	95
1,000-4,999	1,106	2,831	5,117	1,225	1,496	1,185	804	381
5,000-9,999	794	2,369	6,238	360	1,896	2,135	1,812	323
10,000-49,999	228	2,497	8,139	161	2,368	3,031	2,810	281
50,000-99,999	135	2,398	9,128	80	2,466	3,500	3,299	301
100,000-249,999	79	2,650	10,070	38	2,703	3,688	3,283	183
250,000-499,999	22	1,665	6,626	9	1,807	2,639	2,735	104
500,000 and over	11	2,040	10,074	—	2,802	4,396	4,184	111

Here's the *Combination* That Leads to Bigger Truck Sales



WE DON'T have to invent "sales angles" when we talk about Hydraulic Braking. Hydraulic Braking has invented its own best selling angle. It has written a new success story on the pages of automotive history.

For instance, consider this fact: today, every truck that features Hydraulic Braking is showing astonishing sales gains!

Why? Because every year more and

more operators learn that Hydraulic Brakes require minimum attention—are long lived—safe—need no lubrication—and provide an easy, gentle pedal. Thus, year after year, more and more operators are demanding Hydraulic Braking in the trucks they buy.

Frequently, the single advantage of Hydraulic Brakes determines their choice of a truck.

HYDRAULIC BRAKE COMPANY
DETROIT, MICHIGAN

LOCKHEED HYDRAULIC BRAKES

OFFICIALLY SERVICED THROUGHOUT THE NATION BY WAGNER ELECTRIC CORPORATION
COMMERCIAL CAR JOURNAL
APRIL, 1937

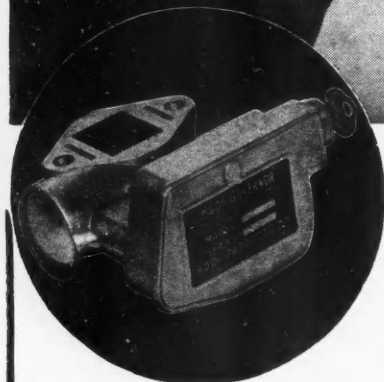
Compression Ratio Change-Over Table

MOST engines built previous to 1935 were not designed to take full advantage of modern 68-70 octane gasoline. The reason for this condition is that at the time some of the older engines were designed 68-70 octane gasoline was not uniformly available and the designers had to produce engines that would operate on all available fuels.

It is possible to adapt older engines to 68-70 octane fuel without excessive cost. The cost can be kept very low by making

the change-over at overhauling time. The compression ratio must be raised and to accomplish this most manufacturers either supply service cylinder heads of higher ratio or pistons of greater length from pin center to top of piston. In some cases it is necessary to mill the head. The compression ratio table gives the correct compression ratios for the various engines and the equipment available for change-over. The ratios and change-over data are also given for the use of Ethyl gasoline.

"WHY ARE OUR TRUCK MAINTENANCE COSTS SO HIGH?"



HOOF GOVERNORS WILL SAVE YOU 25 to 40%

Many garage superintendents and maintenance men make the mistake of not specifying HOOF GOVERNORS as a positive means of reducing costs. Thousands of firms are accomplishing a reduction in costs by using HOOF Governors.

They are modern in every respect, made of aluminum and stainless steel. They will maintain a consistently uniform speed and maximum torque, mainly because they are free from all friction and have the permanency of the Cantilever Spring—an exclusive feature in HOOF Governors. Only one working part, which means absolute dependability.

HOOF GOVERNORS are available throughout the entire United States and foreign countries.

HOOF PRODUCTS COMPANY
CANTILEVER GOVERNORS
162 NORTH FRANKLIN ST. • CHICAGO

(Continued from Page 23)

MAKE, ENGINE MODEL AND YEAR	No. of Cylinders Bore and Stroke	Valve Arr.	Standard Range of Compression Ratios	Ratio for 68-70 Octane Fuel	Ratio for Ethyl (76-78 Octane)	Factory Parts Available 11
HERCULES						
1X (1927-37)...	4-2 1/2 x 4	L	5.20	5.60	6.10	H *
1XA (1929-37)...	4-3 x 4	L	5.50	5.50	6.00	H *
1XB (1929-37)...	4-3 1/2 x 4	L	5.20	5.50	6.00	H *
OOA (1930-37)...	4-3 1/2 x 4 1/2	L	4.20-4.75	5.35	5.75	H *
OOB (1930-37)...	4-3 1/2 x 4 1/2	L	4.20-4.75	5.35	5.75	H *
OOC (1930-37)...	4-4 x 5	L	3.89-4.20	4.75	5.10	H *
OX (1927-37)...	4-4 x 5	L	4.20	4.75	5.10	H *
OXC (1930-37)...	4-4 1/2 x 5	L	3.89-4.50	4.75	5.10	H *
K (1927-37)...	4-4 1/2 x 5 1/2	L	3.78-4.20	4.50	4.85	H *
L (1928-37)...	4-4 1/2 x 5 1/2	L	3.89-4.20	4.50	4.85	H *
G (1928-37)...	6-3 1/2 x 4 1/2	L	5.50	6.00	6.50	H *
OXA (1936-37)...	6-3 1/2 x 4 1/2	L	5.50	6.00	6.50	H *
OXB (1936-37)...	6-3 1/2 x 4 1/2	L	5.16-5.75	5.75	6.50	H *
JXA (1932-37)...	6-3 1/2 x 4 1/2	L	5.35-5.83	5.75	6.25	H *
JXB (1932-37)...	6-3 1/2 x 4 1/2	L	5.35-5.83	5.60	6.10	H *
JXC (1932-37)...	6-4 x 4 1/2	L	5.63-5.78	5.75	6.25	H *
JXD (1935-37)...	6-3 1/2 x 4 1/2	L	4.40-4.70	5.30	6.25	H *
WXA2 (1930-32)...	6-3 1/2 x 4 1/2	L	4.40-4.70	5.30	6.25	H *
WXB (1930-35)...	6-4 x 4 1/2	L	4.40-5.00	5.00	6.25	H *
WXC (1930-37)...	6-4 1/2 x 4 1/2	L	4.40-5.00	5.00	6.00	H *
WXC2 (1930-37)...	6-4 1/2 x 4 1/2	L	4.40-5.00	5.00	6.00	H *
WXC3 (1930-37)...	6-4 1/2 x 4 1/2	L	4.40-5.00	5.00	6.00	H *
WXC4 (1935-37)...	6-4 1/2 x 4 1/2	L	5.42	5.42	6.00	H *
WXL3 (1935-37)...	6-4 1/2 x 4 1/2	L	5.50	5.50	5.85	H *
YXB (1928-33)...	6-4 x 4 1/2	L	4.40-4.40	5.00	5.50	H *
YXC (1928-37)...	6-4 1/2 x 4 1/2	L	4.40-5.12	5.12	5.60	H *
YXC2 (1930-37)...	6-4 1/2 x 4 1/2	L	4.40-4.77	5.00	5.50	H *
YXC3 (1930-37)...	6-4 1/2 x 4 1/2	L	4.40-4.77	5.00	5.50	H *
RXB (1932-37)...	6-4 1/2 x 5 1/2	L	4.72-4.95	5.40	5.75	H *
RXC (1932-37)...	6-4 1/2 x 5 1/2	L	4.72-4.95	5.40	5.75	H *
HERCULES						
HXA (1931-37)...	6-4 1/2 x 6	L	4.50	4.85	5.30	H *
HXB (1931-37)...	6-5 x 6	L	4.50	4.85	5.25	H *
HXC (1931-37)...	6-5 1/2 x 6	L	4.50	4.75	5.20	H *
HXD (1931-37)...	6-5 1/2 x 6	L	4.50	4.70	5.10	H *
HXE (1931-37)...	6-5 1/2 x 6	L	4.50	4.60	5.00	H *
GXA (1932-34)...	6-4 1/2 x 5 1/2	L	4.50	4.85	5.30	H *
GXB (1932-34)...	6-5 x 5 1/2	L	4.50	4.75	5.25	H *
LYCOMING						
AFC (1930-37)...	4-3 1/2 x 4 1/2	L	4.82	5.00	5.40	No *
CT (1928-33)...	4-3 1/2 x 5	L	4.01	4.85	5.25	No *
C4W (1929-34)...	4-4 x 5	L	3.80-4.1	4.75	5.00	No *
SC (1930-33)...	6-3 1/2 x 4 1/2	L	5.00	5.25	5.75	No *
SA (1928-34)...	6-3 1/2 x 4 1/2	L	4.70-5.25	5.25	5.75	No *
SAH (1928-34)...	6-3 1/2 x 4 1/2	L	4.70-5.25	5.25	5.75	No *
4SL (1928-34)...	6-3 1/2 x 4 1/2	L	4.70-5.25	5.25	5.75	No *
4SLM (1928-34)...	6-3 1/2 x 4 1/2	L	4.70-5.25	5.25	5.75	No *
SB (1930-34)...	6-3 1/2 x 4 1/2	L	5.00	5.00	5.50	No *
ASD-E-F (1929-37)...	6-3 1/2 x 4 1/2	L	5.00-5.25	5.25	5.75	No *
WF (1935-37)...	6-3 1/2 x 4 1/2	L	5.80-6.20	6.00	6.50	No *
TV (1930-33)...	6-3 1/2 x 5	L	4.80	4.90	5.40	No *
TS (1930-34)...	6-3 1/2 x 5	L	4.80	4.90	5.40	No *
HFA (1928-34)...	6-3 1/2 x 4 1/2	L	5.25	5.50	6.00	No *
AEF (1930-37)...	6-3 1/2 x 4 1/2	L	5.00-5.25	5.30	5.75	No *
WAUKESHA						
FCS (1936-37)...	4-2 1/2 x 4	L	5.75	5.75	6.25	No *
FC (1936-37)...	4-3 1/2 x 4	L	5.60	5.60	6.10	No *
XA (1928-32)...	4-3 1/2 x 4 1/2	L	3.90-4.45	5.4	5.75	H *
XAH (1932-37)...	4-3 1/2 x 4 1/2	L	4.60-5.10	5.10	5.75	H *
XAK (1930-34)...	4-3 1/2 x 4 1/2	L	4.30-5.20	5.20	5.50	H *
V (1928-35)...	4-4 x 5	L	4.10-4.70	4.90	5.25	H *
VK (1930-37)...	4-4 1/2 x 5	L	4.15	4.75	5.25	H *
6ZKA (1936-37)...	6-3 1/2 x 4 1/2	L	4.90-5.62	5.62	6.70	H *
6BA (1935-36)...	6-3 1/2 x 4 1/2	L	5.00	5.40	6.40	H *
6BL (1934-37)...	6-3 1/2 x 4 1/2	L	5.30	5.30	6.30	H *
6BM (1934-35)...	6-3 1/2 x 4 1/2	L	5.25	5.25	5.95	H *
6BK (1934-37)...	6-3 1/2 x 4 1/2	L	5.20	5.20	6.00	H *
6TS (1929-33)...	6-3 1/2 x 4 1/2	L	5.10	5.10	5.80	H *
6TL (1929-33)...	6-3 1/2 x 4 1/2	L	4.60	5.00	5.80	H *
6MS (1931-36)...	6-4 x 4 1/2	L	4.60-6.20	6.20	6.85	H *
6ML (1931-37)...	6-4 1/2 x 4 1/2	L	4.60-6.10	6.10	6.50	H *
6MK (1931-37)...	6-4 1/2 x 4 1/2	L	4.60-6.10	6.10	6.50	H *
6MZ (1931-37)...	6-4 1/2 x 4 1/2	L	4.60-6.10	6.10	6.50	H *
6SR5 (1932-36)...	6-4 1/2 x 5 1/2	L	4.60-5.00	5.00	5.50	H *
6BRL (1932-37)...	6-4 1/2 x 5 1/2	L	4.60-5.00	5.00	5.50	H *
6SRK (1931-37)...	6-4 1/2 x 5 1/2	L	4.50-4.75	4.75	5.20	H *
6HB (1930-34)...	6-4 1/2 x 5 1/2	L	4.50-4.90	5.20	5.75	No *
6AB (1928-37)...	6-4 1/2 x 5 1/2	L	4.55-4.95	5.00	5.75	H *
6RB (1928-37)...	6-5 x 5 1/2	F	4.46-4.75	4.75	5.25	H *
6-80 (1933-35)...	6-3 1/2 x 4 1/2	F	5.25	5.25	6.00	H *
6-110 (1933-37)...	6-4 x 4 1/2	F	5.10	5.25	6.00	H *
6-125 (1933-37)...	6-4 1/2 x 5 1/2	F	5.00	5.00	5.80	H *
WISCONSIN						
SU (1928-37)...	4-4 x 5	I	4.20-4.50	4.85	5.20	No
C (1928-33)...	4-3 1/2 x 5	L	4.17	5.00	5.40	No
W (1930-37)...	4-4 1/2 x 5	I	4.20	4.75	5.10	No
X (1930-37)...	4-4 1/2 x 5	I	4.25	4.75	5.10	No
F (1928-37)...	6-3 1/2 x 4 1/2	I	4.80	5.00	5.50	No
Y (1928-37)...	6-3 1/2 x 5	I	4.80	5.00	5.50	No
H (1928-33)...	6-4 x 5	I	4.54	4.85	5.25	No
GA1 (1933-37)...	6-3 1/2 x 5	I	4.54	5.00	5.50	No
GA2 (1933-37)...	6-3 1/2 x 5	I	3.54-4.25	5.00	5.50	No
L2 (1932-37)...	6-3 1/2 x 5	I	4.30	5.00	5.50	No
L3 (1932-1937)...	6-4 1/2 x 5	I	4.30	4.80	5.25	No
L4 (1932-37)...	6-4 1/2 x 5	I	4.30	4.80	5.25	No
ZA1 (1930-37)...	6-4 1/2 x 5	I	4.50	4.75	5.25	No
ZA2 (1930-37)...	6-4 1/2 x 5	I	4.50	4.75	5.25	No

H—Cylinder head *—Cylinder head may be milled to obtain compression ratio noted

48% of battery failures are caused by

**"BROKEN DOWN SEPARATORS
FAULTY PLATES
INTERNAL SHORT CIRCUITS
CRACKED BATTERY CASES"**

**according to
survey of fleet operators**

IN a recent survey, fleet operators reported faulty separators as the greatest single cause of premature battery failure. Faulty plates, internal short circuits, and broken battery cases ran close behind. The balance were largely due to causes outside the battery, such as loose connections, under-charging, cells allowed to run dry, etc.



Exide engineers had all these facts in mind when they designed the new line of Exides for commercial vehicles. The new Exide line has double insulation: Mipor, the permanent plate insulator, insurance against the effects of extreme heat and vibration—and slotted rubber insulation for long life. There are heavy, high-capacity plates, extra durable hard-rubber container, heavy inter-cell connectors, properly balanced electrolyte and sediment spaces. These batteries go far to eliminate that 48% of failures commonly arising from causes within the battery itself.

The four Exides in the new line take care of 90% of all commercial vehicles. For large trucks, there is the regular Exide heavy-duty line. Write us for the name of the nearest Exide Wholesaler, who will give you full details.

THE ELECTRIC STORAGE BATTERY CO., Philadelphia
The World's Largest Manufacturers of Storage Batteries for Every Purpose
Exide Batteries of Canada, Limited, Toronto

Exide

COMMERCIAL TYPE BATTERIES

Highway Safety Section

(CONTINUED FROM PAGE 73)

- (a) Good physical and mental health.
- (b) No physical deformity or loss of limb likely to interfere with safe driving.
- (c) Good eyesight in both eyes (either without glasses, or by correction with glasses), including adequate perception of red and green colors.
- (d) Adequate hearing.
- (e) Experience in driving some type of motor vehicle (including private automobiles) for not less than one year, including experience throughout the four seasons.
- (f) Competency by reason of experience or training to operate safely the type of vehicle or vehicles which he drives.
- (g) Knowledge of rules and regulations issued by the Commission under the Motor Carrier Act, 1935, pertaining to the driving of motor vehicles.

(h) Shall not be addicted to the use of narcotic drugs.

(i) Shall neither use, nor be under the influence of, any alcoholic liquor or beverage while on duty, nor otherwise make excessive use thereof.

(j) Not less than 21 years of age, unless the person was engaged in so driving on July 1, 1937, or within one year prior thereto, but in no case less than 18 years of age.

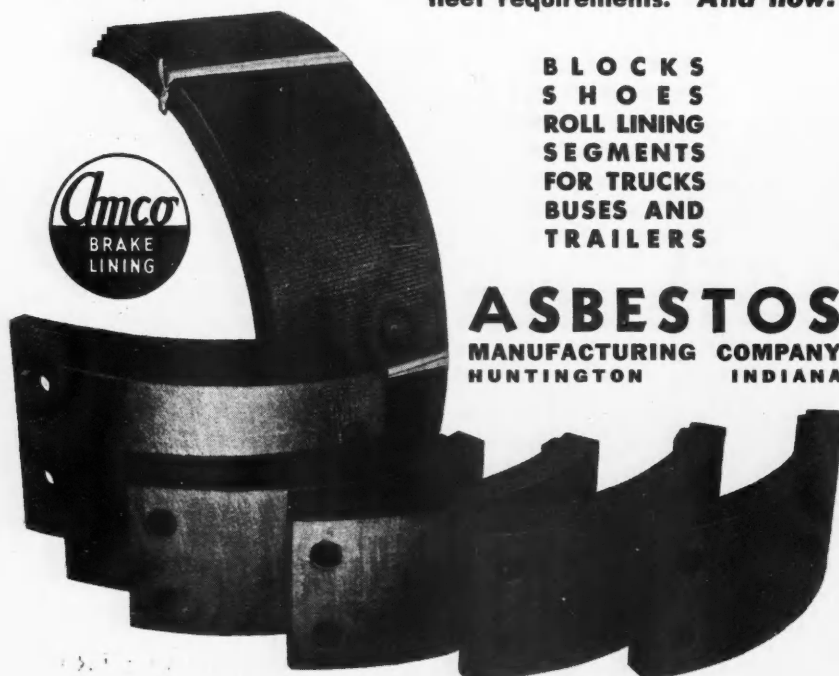
(k) Ability to read and speak the English language, unless the person was engaged in so driving on July 1, 1937, or within one year prior thereto, but in any case ability to understand traffic and warning signs.

4. Every motor carrier, within 60 days after the effective date of these regulations, or within 20 days after any person not engaged on such date as a driver becomes so engaged for a period longer than three days, shall file with the Commission, for each driver so engaged, the information called for by the "Driver Identification Form" set forth below. The same information is required from each owner-driver.



It isn't AMCO unless it says so!

Longer mileage, greater safety, better performance are engineered into AMCO friction products. These claims are confirmed by fleet operators who test AMCO against the field. Fleet after fleet is being equipped with AMCO. One complete line services all fleet requirements. **And how!**



Driver Identification Form

Date _____ (Month) _____ (Day) _____ (Year)

(1) Name of driver (Print in full) _____ (First name) _____ (Middle name) _____ (Last name)

(2) Residence _____ (Street and No.) _____ (City or town) _____ (County) _____ (State)

(3) Date of birth _____ (Month) _____ (Day) _____ (Year)

(4) Has driven motor vehicles since _____ (Color of hair) _____ (Color of eyes)

(5) Miles (approximately) driven: Passenger cars _____ (Type) _____
Trucks up to and including 1½ tons capacity _____
Trucks over 1½ tons capacity _____ Trailer combinations _____
Taxicabs _____ Buses _____

(6) State or States in which now licensed: _____
As chauffeur or operator (State which) _____ License number _____ Date of expiration _____

(7) Date of last medical examination, if any, in connection with employment as a driver _____

Signature of driver _____

(If driver is an employee, the following information must be supplied by employing carrier:)
The driver whose name and description are given above has been employed by me/on share _____ (Month) _____ (Day) _____ (Year)

Name of motor carrier _____
Address _____ (Street and No.) _____ (City) _____ (State)

Signature of reporting official _____
Title _____

(NOTE.—Deposit of "Driver Identification Form" in the United States mail, postage prepaid, addressed to Interstate Commerce Commission, Bureau of Motor Carriers, Washington, D. C., within the period set forth will be deemed a compliance with this regulation. Copies of this form will be supplied to all carriers.)

PART II.—DRIVING OF MOTOR VEHICLES

1. (Terms—commonly accepted definitions.)
2. Nothing contained in these regulations shall be construed as prohibiting any motor carrier from enforcing additional rules and regulations relating to safety of operation, not inconsistent with these regulations.
3. Every motor carrier and his or its officers, agents, employees, and representatives shall comply with the following regulations.

Reckless Driving

4. No motor vehicle shall be driven recklessly, or so as to endanger life, limb, or property.
5. No motor vehicle shall be driven by any driver while his ability or alertness is so impaired through fatigue, illness, or any other cause as to make it unsafe for him to drive or to continue to drive a motor vehicle, nor shall he be required or knowingly be permitted to drive while in such condition, except in case of grave emergency where the hazard to passengers would be increased by observance of the foregoing provisions.
6. No driver shall go on duty while under the influence of, nor drink while on duty, any alcoholic liquor or beverage; nor shall he knowingly be permitted so to do.

Speed

7. No motor vehicle shall be driven at a speed greater than is reasonable and prudent, having due regard to weather, traffic, intersections, width and character of the roadway, type of motor vehicle, and any other conditions then existing; but in no event shall a motor vehicle be driven in or through any State, legal subdivision thereof, or the District of Columbia at a speed greater than that permitted by such State, legal subdivision thereof, or the District of Columbia.

Before Driving

8. No motor vehicle shall be driven unless the driver thereof shall have satisfied himself that the following required parts and accessories are in good working order: lighting devices and reflectors; brakes, both service and hand; horn; windshield wiper; rear vision mirror; tires; steering mechanism; coupling devices.
9. No motor vehicle shall be driven unless the following required accessories are in place and ready for immediate use in case of emergency:
 - (a) On every bus, truck, or truck tractor—at least one fire extinguisher, one red lantern, when projecting loads are carried, one red-cloth flag, when projecting loads are carried.
 - (b) On every bus, truck, or truck tractor operating outside the corporate limits of municipalities—

All items listed under (a) above, and in addition: at least one spare electric bulb for each kind of electric lamp where such electric lamp is used for any of the lighting devices required by these regulations; one set

(TURN TO PAGE 90, PLEASE)



BUS TRANSPORTATION
1936 GOLD AWARD
FOR CITY COMPANIES
PRESENTED TO
MOTOR TRANSIT COMPANY
JACKSONVILLE, FLA.

WE OFFER OUR CONGRATULATIONS AND CLAIM AN "ASSIST"

CONGRATULATIONS to the Motor Transit Company, of Jacksonville, Florida, for their fine achievement in winning the 1936 Gold Award for City Companies!

We, of Gulf, take special pride in this company's remarkable performance . . . pride in having helped a good company do a bang-up job.

For the gasoline used by the Motor Transit Company for approximately 2,750,000 miles during the test period was That Good Gulf Gasoline.

*Gulf Oil Corporation
Gulf Refining Company
Pittsburgh, Pa.*



*Refiners of That
Good Gulf Gasoline and
Gulfspride Oil*

(CONTINUED FROM PAGE 88)

of tire chains (for all vehicles likely to encounter conditions requiring them); at least three flares (not torches) or red electric lanterns, unless motor vehicle is operated solely on streets or highways which are artificially lighted at night; at least three fuses (if flares are used as warning signals), unless motor vehicle is operated solely on streets or highways which are artificially lighted at night; at least two red-cloth flags with standards.

10. No motor vehicle shall be driven unless the driver shall have satisfied himself that the tailboard or tailgate, tarpaulins, chains (except ground or contact chains), ropes, stakes, poles, and the like, or any part of the load, are securely fastened.

11. No motor vehicle shall be set in motion until due caution has been taken to ascertain that the course is clear.

Driving

12. Every motor vehicle shall be driven on right side of the highway.

13. Space shall be maintained between vehicles so that an overtaking vehicle may enter and occupy such space. Motor vehicles proceeding in convoy shall maintain a distance of at least 300 feet between units. This rule shall not be construed to prevent overtaking and passing another vehicle.

14. Every motor vehicle transporting explosives, or poisonous or compressed inflammable gases, inflammable or corrosive liquids in bulk, whether loaded or empty, shall stop within 50 feet, but not less than 10 feet, from the nearest rail of such railroad grade crossing; provided, that such full stop shall not be required at a street-car crossing within a business or residence district, nor at a railroad grade crossing protected by a watchman or traffic officer on duty or by a traffic control "stop and go" signal (not railroad flashing signal), giving positive indication to approaching vehicles to proceed. Any other vehicle shall reduce speed to enable a stop to be made before reaching the nearest rail. In all cases there shall be no changing gears while traversing crossing.

15. Any vehicle upon approaching a draw-

bridge shall reduce speed to permit stopping before reaching the draw.

16. Sudden change of pace in speed shall not be made without due caution against endangering other users of the highway.

17. Before making any turn the vehicle shall be driven into the proper right or left hand lanes preparatory to making such turns.

18. A driver shall not pass another vehicle unless there is sufficient space ahead to insure against endangering other highway users.

19. The speed of a motor vehicle shall not be increased to prevent being overtaken by another motor vehicle attempting to pass.

20. No motor vehicle shall be driven down grade with gears in neutral or clutch disengaged.

21. Any motor vehicle when meeting or overtaking any bus discharging or taking on passengers shall proceed only if the course ahead is clear.

Stopping

22. No motor vehicle shall be stopped, parked, or left standing, whether attended or unattended, upon the traveled portion of any highway outside of a business or residence district, when it is practicable to stop, park, or leave the motor vehicle off the traveled portion of such highway.

23. Whenever any motor vehicle is disabled upon the traveled portion of any highway or shoulder next thereto, except within the corporate limits of municipalities or upon streets or highways which are artificially lighted at night, the following requirements shall be complied with during the period of such disablement:

(a) During the time that lights are required, a lighted fuse shall be immediately placed on the roadway at the traffic side of the motor vehicle; as soon thereafter as possible and in any case within the burning period of the fuse, three lighted flares (pot torches) shall be placed on the roadway, as follows: One in the center of the lane of traffic occupied by the disabled motor vehicle and not less than 40 paces (approximately 100 feet) distant therefrom in the direction of traffic approaching in that lane, one not less than 40 paces from such vehicle in the opposite direction, and one at the traffic side of such vehicle, not closer than 10 feet from the front or rear thereof. If the motor vehicle is disabled within 300 feet of a curve, crest of a hill, or other obstruction to view, the flare in that direction shall be so placed as to afford ample warning to other users of the highway, but in no case less than 40 paces nor more than 120 paces (approximately 300 feet) from the disabled vehicle.

(b) For every motor vehicle used for the transportation of inflammable liquids in bulk or compressed inflammable gases, whether loaded or empty, any signal produced by a flame is prohibited, and red electric lanterns shall be used in lieu thereof. Said red lanterns shall be immediately placed in the same manner prescribed in subparagraph (a) above for flares.

(c) During such time as lights are not required, red flags shall be used in place of flares or electric lanterns as specified in subparagraphs (a) and (b) above, except that no flag shall be required to be placed at the side of the vehicle.

24. No motor vehicle shall be left unattended until after the parking (hand) brake has been securely set and all other reasonable precautions have been taken to prevent its movement while unattended.

Lights

25. On every motor vehicle operated upon the highways, all lamps required by the regulations of the Commission shall be lighted during the period from one-half hour after sunset to one-half hour before sunrise, and at any other time when there is not sufficient light to render clearly discernible persons and vehicles on the highway at a distance of 500 feet ahead, except as provided in paragraph 29, and except that within the confines of municipalities where there is sufficient light to render clearly discernible persons and vehicles upon the highway at a distance of 500 feet ahead, clearance and side-marker lights shall not be required to be displayed; provided, however, that while any motor vehicle is stopped upon the highway, the headlights shall be dimmed or depressed.

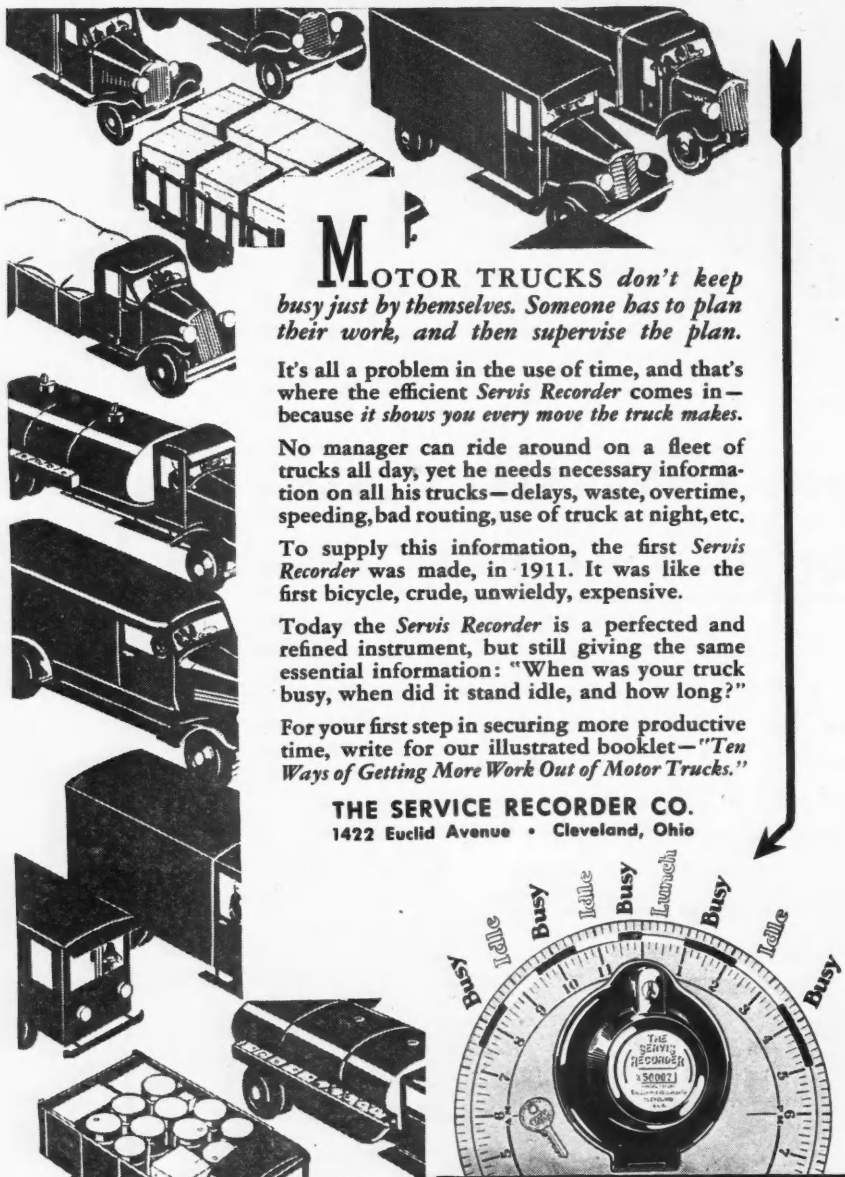
26. When a motor vehicle is equipped with more than four lamps of the character of head lamps, auxiliary road-lighting lamps, or spot lamps, not more than four such lamps shall be lighted at any one time.

27. Whenever the road-lighting equipment on a motor vehicle is so arranged that the driver may select at will between two or more distributions of light from head lamps or auxiliary road-lighting lamps or combinations there-

(TURN TO PAGE 92, PLEASE)

KEEPING TRUCKS BUSY

That's Been Our Business for 26 Years



MOTOR TRUCKS don't keep busy just by themselves. Someone has to plan their work, and then supervise the plan.

It's all a problem in the use of time, and that's where the efficient *Servis Recorder* comes in—because it shows you every move the truck makes.

No manager can ride around on a fleet of trucks all day, yet he needs necessary information on all his trucks—delays, waste, overtime, speeding, bad routing, use of truck at night, etc.

To supply this information, the first *Servis Recorder* was made, in 1911. It was like the first bicycle, crude, unwieldy, expensive.

Today the *Servis Recorder* is a perfected and refined instrument, but still giving the same essential information: "When was your truck busy, when did it stand idle, and how long?"

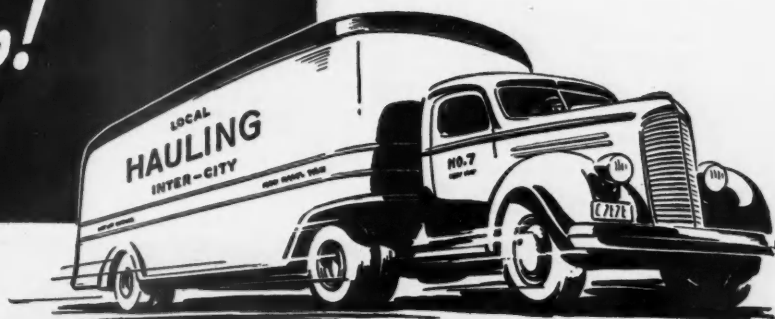
For your first step in securing more productive time, write for our illustrated booklet—"Ten Ways of Getting More Work Out of Motor Trucks."

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The Servis Recorder
Tells Every Move Your Truck Makes

PUT GOODYEARS ON YOUR FREIGHTERS

*-and Watch your
Mileage Jump!*



MORE MILES AT LESS COST!

ASK THE MEN in your own line of business—operating trucks just as you do—about tires.

More of them than not will start right in telling you of exceptional mileage records on Goodyear Tires. That's why—

More tons are hauled on Goodyear Truck Tires than on any other kind.

Goodyear builds a type and

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It's a safe prediction you'll save money if you let the Goodyear dealer near you show you the Goodyear Truck Tire best fitted for your work.

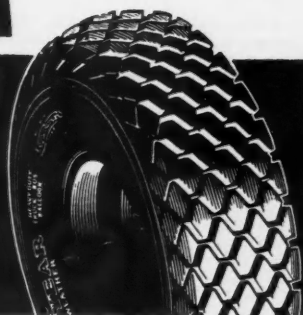
Read the money saving features at the right. Then put Goodyears on your trucks and —*Watch Your Mileage Jump!*

THE GOODYEAR TIRE & RUBBER CO., INC, AKRON, OHIO

MONEY SAVING FEATURES

- Patented Pre-Shrunk Supertwist Cord Construction for greater body strength, protection against blowouts.
- Chemically-toughened, heat-resisting rubber in both tread and body.
- Cooler running High Profile Construction.
- High Shoulder Tread Shape for slower, more even wear.
- Braided Wire Beads to protect against swaying loads.

THERE'S A
GOOD YEAR
BATTERY
now!



GOOD YEAR TRUCK TIRES

(CONTINUED FROM PAGE 90)

of, directed to different elevations, the following requirements shall apply while driving during the times when lights are required:

(a) When there is no oncoming vehicle within 500 feet, the driver shall use an upper distribution of light; except in fog, dust, or within the confines of municipalities or when following another vehicle within 500 feet when lower beams may be used.

(b) When within 500 feet of an oncoming vehicle, the driver shall use a distribution of light so aimed that the glaring rays therefrom are not directed into the eyes of the oncoming driver.

28. At no time while driving during the times when lights are required shall any distribution of light be used which will not reveal a person or vehicle at a distance of at least 100 feet ahead under normal atmospheric conditions; provided, however, that dimmed headlights may be used in fog when they tend to promote safety.

29. Whenever motor vehicles are operated in combination during the time that lights are

required, any lamp (except tail lamps) need not be lighted which, by reason of its location on a motor vehicle of the combination, would be obscured by another vehicle of the combination.

30. In using a spot light, upon approaching another vehicle, it shall be so aimed that no part of the high-intensity portion of the beam is directed beyond the left side, nor more than 100 feet ahead, of the vehicle upon which the lamp is mounted.

Hazardous Conditions

31. Extreme caution shall be exercised under hazardous conditions which adversely affect visibility or traction, and speed shall be deduced accordingly.

In Case of Accident

32. The driver of any motor vehicle involved in an accident resulting in death, personal injury, or property damage, shall forthwith stop at the scene of the accident and remain there until he shall have (a) rendered all possible assistance to injured persons; and (b)

given to any person demanding the same his name and address, the name and address of his employer, if any, and his vehicle registration number. He shall take all reasonable precautions to prevent further accidents at the scene. As soon as possible after the accident the driver (if not himself a motor carrier) shall report all details of the accident to his employer or supervisory official.

Miscellaneous

33. No motor vehicle shall be fueled or be permitted to be fueled with engine running, or in the presence of any open flame.

34. No motor vehicle shall be so loaded as to obscure the driver's view ahead or to either side, or to interfere with the free movement of his arms or legs, or to prevent his free and ready access to the accessories required for emergencies.

35. During the time when lights are required to be displayed, there shall be attached to the rearmost extremity of any load which projects 4 feet or more beyond the rear of the body, or to any tailboard or tailgate so projecting, or to the rearmost extremity of any load carried on a pole trailer, at least one red lantern, visible from a distance of at least 500 feet to the sides and rear under normal atmospheric conditions. At all other times a red-cloth flag shall be displayed.

36. No motor vehicle shall be operated with the tailboard or tailgate in such position as to obscure any of the required rear lights or reflectors.

37. No person, except the carrier, employees of the carrier, representatives of the shipper when their presence is necessary for the safe care of livestock or perishable cargo, representatives of the Commission, or public officials in the proper performance of their duties, shall be transported upon any motor vehicle not designed and used for the transportation of passengers; provided, however, that each person permitted by this paragraph to be transported upon such motor vehicle, except those engaged in the actual operation of the motor vehicle, shall have printed or written authority therefor from the carrier; and provided further, that nothing contained in this paragraph shall be so construed as to prohibit the carrying of any person in case of an accident, or in other emergencies.

PART III.—PARTS AND ACCESSORIES NECESSARY FOR SAFE OPERATION

Section A.—Lighting Devices and Reflectors

(1) (Diagrams on pages 72 and 73, give complete instructions.) (See diagram F.)

(2) No lighting device mounted on the front shall display any other color than white, yellow, or amber. No red lighting device of any character shall be mounted on the front.

All lighting devices mounted on the rear shall display a red light, except the stop light, the color of which may be red, amber, or yellow.

(3) Front clearance lamps shall display an amber color when lighted; provided, however, that clearance lamps in present equipment otherwise complying with these regulations may display a green color until replacements are made.

Rear clearance lamps shall display a red color when lighted.

Side-marker lamps shall display the same color when lighted as the clearance lamps to which they are adjacent.

(4) Any reflector required to be mounted on the sides near the front of a motor vehicle shall reflect a color corresponding to the color of light displayed by the front clearance lamps of the motor vehicle or combination of motor vehicles. Any reflector required to be mounted on the sides near the rear of the motor vehicle shall reflect red color. Any reflector mounted on the rear of any motor vehicle shall reflect a red color.

(5) Front clearance, side-marker, rear clearance, and tail lamps, when lighted, shall be capable of being distinguished under normal atmospheric conditions during the time when lights are required at a distance of 500 feet from the front, side, and rear of the motor vehicle, respectively.

(6) Clearance lamps shall be mounted on the permanent structure of the motor vehicle in such a manner as to indicate its extreme width and as near the top thereof as practicable; provided, however, that where identification or bar lights (three lights in a row, mounted at the top of the cab or body) are located on the front of any motor vehicle, the requirement of this paragraph with regard to maximum height of mounting need not apply. (See diagram H.)

(7) Stop lights shall be actuated upon application of the service (foot) brake, and shall be capable of being seen and distinguished from a distance of 100 feet to the rear of the motor vehicle in normal daylight; but shall not project a glaring or dazzling light. It is

(TURN TO PAGE 94, PLEASE)

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STAINLESS STEEL
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WHEN YOU KNOW HOW

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COSTS SAY:

**"FORD ENGINE AND PARTS
EXCHANGE PLAN CUTS
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Carburetor Assemblies	Distributor Assemblies
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Convenient, economical terms through the Authorized Ford Finance Plans of the Universal Credit Company

Low gas and oil costs are only a part of Ford V-8 Truck and Commercial Car economy. Maintenance expense is also low because sound design, quality materials and precision manufacture make trips to the repair shop few and far between.

When parts replacements do become necessary, the cost is small. For example, after tens of thousands of miles of service the V-8 engine can be exchanged for a factory-reconditioned engine at a cost much lower than an ordinary engine overhaul. This exchange can be made in just a few hours, reducing the idle time of the unit. This plan restores original performance and greatly lengthens the useful life of the entire vehicle. In addition to the engine, many other factory-reconditioned parts are available at low cost.

Before you buy any new truck this year, ask your Ford dealer for details about this money-saving plan. Set a date for an "on-the-job" test of a Ford V-8 Truck or Commercial Car under your own operating conditions.



FORD V-8 TRUCKS *and commercial cars*

(CONTINUED FROM PAGE 92)

permissible that the stop light be incorporated with the tail lamp.

(8) No reflector required by these regulations shall be mounted upon the motor vehicle at a height to exceed 60 inches, nor less than 24 inches, above the ground upon which the motor vehicle stands; provided that, if the highest part of the permanent structure of a motor vehicle upon which a reflector is required to be mounted is less than 24 inches, the required reflector at such point or points shall be mounted as near the maximum height of that part as such permanent structure will permit. Every reflector shall be of such size and characteristics as to be readily visible at night from all distances within 500 feet to 50 feet from the motor vehicle when directly in front of a normal headlight beam. It is permissible that one of the required red reflectors on the rear of the motor vehicle be incorporated with the tail lamp.

(Note.—Any reflex reflector approved by any of the States listed below, or by any other State having equivalent or

superior requirements, or any reflex reflector meeting the requirements as set forth in "S. A. E. Recommended Practice" for reflex reflectors, as promulgated by the Society of Automotive Engineers, shall be deemed to meet the requirements of paragraph (8) with respect to performance characteristics. The listed States are New Hampshire, Massachusetts, Rhode Island, New York, and California.)

(9) The lighting devices or reflectors required by these regulations shall be mounted, so far as practicable, in such a manner as to reduce the likelihood of their being obscured by mud or dust thrown up by the wheels.

Section B.—Brakes

(1) Every bus, truck, and truck tractor shall be equipped with brakes adequate to control the movement of, and to stop and to hold, such vehicle, including two separate means of applying the brakes. If these two separate means of applying the brakes are connected in any way, they shall be so constructed that failure of any one part of the

operating mechanism shall not leave the vehicle without brakes adequate to stop and to hold such vehicle.

(2) Every combination of motor vehicles shall be equipped with brakes upon one or more of such motor vehicles, adequate to stop and to hold such combination of motor vehicles.

(3) Every motor vehicle or combination of motor vehicles, according to its type, shall be capable at all times and under all conditions of loading, of stopping on a dry, smooth, level road free from loose material, upon application of the service (foot) brake, within the distances specified below, or shall be capable of decelerating at a sustained rate corresponding to these distances:

	Feet to stop from 20 m. p. h.	Deceleration in feet per second ¹
Vehicles or combinations having brakes on all wheels	30	14
Vehicles or combinations not having brakes on all wheels	45	9.5

¹ Equivalence with stopping distances listed only to the nearest half foot.

(4) In any combination of motor vehicles, means shall be provided for applying the rear-most trailer brakes, of any trailer equipped with brakes, in approximate synchronism with the brakes on the towing vehicle and developing the required braking effort on the rear-most wheels at the fastest rate; or means shall be provided for applying braking effort first on the rear-most trailer equipped with brakes; or both of the above means capable of being used alternatively may be employed.

(5) Means of braking, the operating controls of which shall be independent of the operating controls of the service (foot) brake, shall be provided to hold any motor vehicle or combination of motor vehicles stationary on any up or down grade upon which it is to be operated.

Section C.—Safety Glass

(1) Whenever glass is replaced in the windshield and in the window next to the driver, in a bus, truck, or truck tractor; or in the doors and rear windows of a bus; or in the rear window of the driving compartment of a truck or truck tractor, the replacement shall be made with safety glass.

Section D.—Miscellaneous Parts and Accessories

(1) Every motor vehicle having a windshield shall be equipped with at least one device for cleaning rain, snow, or other moisture from the windshield in order to provide clear vision for the driver, which device shall be so constructed as to be controlled or operated by the driver.

(2) Every truck, bus, and truck tractor shall be equipped with at least one rear-vision mirror, firmly attached, and so located as to reflect to the driver a view of the highway to the rear.

(3) Every motor vehicle which is equipped with a windshield, when operating under conditions such that ice or frost would be likely to collect on the windshield, shall be equipped with a device or other means for preventing or removing such ice or frost.

(4) Every truck, bus, and truck tractor shall be equipped with a horn.

(5) No fuel tank or intake pipe on any motor vehicle shall project beyond the sides of the motor vehicle.

(6) Any gasoline tank carried upon a motor vehicle, including any auxiliary tank, shall be of substantial construction, permanently attached to the motor vehicle in a manner similar to that which constitutes good practice in permanent installations.

(7) Every full trailer shall be equipped with a coupling device which shall be so designed and constructed that the trailer will follow substantially in the path of the vehicle drawing it without whipping or swerving from side to side. In addition, every such full trailer shall be coupled with stay chains or cables to the vehicle by which it is being drawn, which chains or cables shall be of sufficient size and strength to prevent parting from the drawing vehicle should the regular coupling device break or become otherwise disengaged.

(8) Every motor vehicle shall carry at all times the following emergency parts and accessories, which shall be in proper and effective working order and available for immediate use:

(a) On every bus, truck, or truck tractor—At least one fire extinguisher, of a type inspected and labeled by Underwriters' Laboratories, Inc., under Classification B, and utilized

(TURN TO PAGE 96, PLEASE)

RELY ON FACTS INSTEAD OF HEAR-SAY WHEN YOU BUY POWER BRAKES



1. Midland Power Brake equipment is outstanding in engineering design because it is made under the famous Christensen patents.
2. It is produced from the highest quality materials by precision methods. It is rugged in design, easy to install and economical to use.
3. It is made and guaranteed by one of the world's largest automotive accessory manufacturers.

These are facts. They are substantiated by ever increasing sales to the country's largest fleet operators. This is why, today, so many leading truck, bus and trailer manufacturers are using Midland Power units as standard factory equipment.

Compare Midland Power Brake equipment with any other on the market. Check the efficient design, ease of installation and simplicity of construction. Then try them and prove their on-the-job economy!

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Cut your power braking costs with Midland Kits. Every nut, bolt and screw—plus complete instructions—for Ford, Chevrolet, Dodge, International and G.M.C. Also standard vacuum hand control kits for any passenger car or tractor. See your nearest Midland Distributor or write us direct.

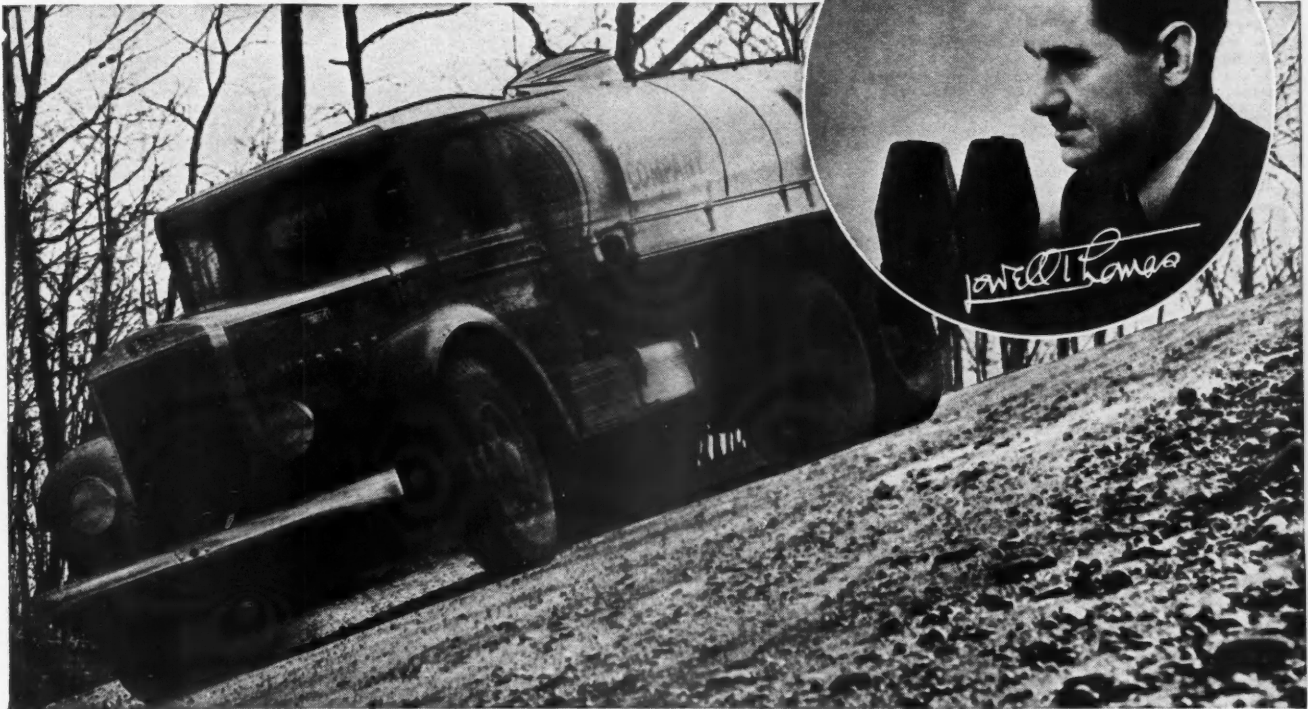


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Write us about our distributor franchise. Your territory may be available.

THE MIDLAND STEEL PRODUCTS CO.
10605 MADISON AVENUE CLEVELAND, OHIO



"SLIPPERY ROADS BENEATH US.. 12 TONS OF MILK BEHIND US ...CURVES AHEAD"



by Lowell Thomas

"We had just topped the brow of Deadman's Hill—not many miles from my farm in the Taconic Mountains. Down we started! A steep grade. A road slippery with mud. Sharp curves ahead.

"Here was one of the danger spots on that devil stretch through the mountains.

"I had visions of a skid. A blow-out. There were thrills at every curve. But to the driver, Larry Edwards, this mountain run is old stuff.



"He drives one of the 96 giant milk trucks owned by H. L. & F. McBride of Goshen, N. Y. They pound the highways night and day, seven days a week.

"On these runs a skid is mighty dangerous. A flat tire means an hour and a half lost. A blow-out . . . ?

"Tire trouble used to come often. Too often for safety. But, they tell me, with Goodrich Triple Protected Silvertowns, they've never had an accident caused by tires! Not one sidewall blow-out!

850,000 MILES A YEAR

"Later I talked to H. L. McBride. He said, 'Our trucks travel about 850,000 miles a year. Loads are heavy. The country is hilly. Many roads are high crowned. But tire trouble is practically a thing of the past. Our Goodrich Tires average better than 58,000 miles.'

"There's a hauling job of the hardest kind—and there's a tire record that speaks for itself."

Lowell Thomas, world traveler, adventurer and farmer, found a new thrill in visiting this big scale trucking operation. He heard an amazing story of tire per-

formance. What's back of this record? Well, here are the facts.

Goodrich knows that 8 out of 10 premature truck tire failures are sidewall breaks. Goodrich decided to *do something* about it.

TIRES NOW TRIPLE PROTECTED

Engineers worked for months. Brought out a new invention—Triple Protection. Built into the sidewall, it keeps tires young. Lets 'em wear out S-L-O-W-L-Y instead of blowing out in a hurry.

Here are the three points of dollar-saving Triple Protection:

1. **PLYFLEX**—distributes stresses throughout the tire—prevents ply separation—checks local weakness.
2. **PLY-LOCK**—protects the tire from breaks caused by short plies tearing loose above the bead.
3. **100% FULL-FLOATING CORD**—eliminates cross cords from *all* plies—reduces heat in the tire 12%.

There's something for every trucker to think about. It means sure protection against unnecessary road delays. Good-bye to big repair bills. More mileage than ever built into a truck tire before.

For tire information see a Goodrich dealer or write The B. F. Goodrich Company, Akron, Ohio.

Goodrich *Triple Protected* Silvertowns

SPECIFY THESE NEW SILVERTOWN TIRES FOR TRUCKS AND BUSES

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(CONTINUED FROM PAGE 94)

ing an extinguishing agent which goes not need protecting from freezing. (Minimum size: one-quart carbon tetrachloride type, or two-pound carbon dioxide type). One red lantern, when projecting loads are carried. One red cloth flag, not less than 12 inches square, when projecting loads are carried.

(b) On every bus, truck, or truck tractor operating outside the corporate limits of municipalities—

All items listed under (a) above, and in addition:

At least one spare electric bulb for each kind of electric lamp where such electric lamp is used for any of the lighting devices required by these regulations.

One set of tire chains (for all vehicles likely to encounter conditions requiring them).

At least three flares or three red electric lanterns, unless the motor vehicle is operated solely on streets or highways which are artificially lighted at night; each flare (liquid-burning pot torch) or red electric lantern shall be capable of being seen and distinguished

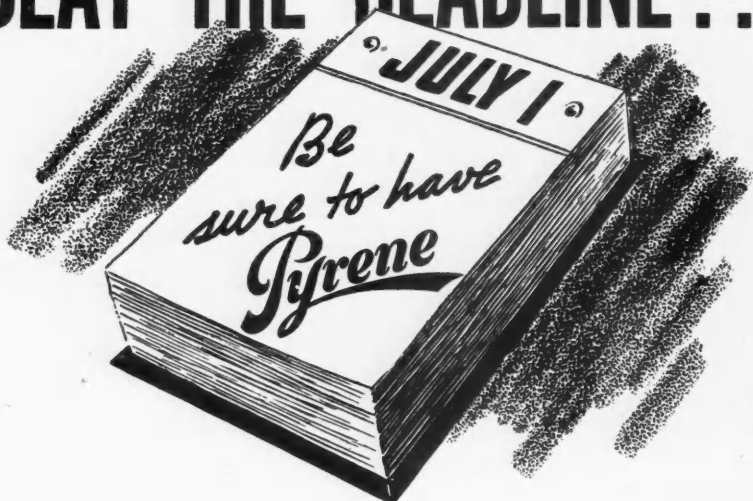
at a distance of 500 feet under normal atmospheric conditions; each flare (pot torch) shall be capable of burning for not less than 12 hours in five miles per hour wind velocity, capable of burning in any air velocities from zero to 40 miles per hour, substantially constructed so as to withstand reasonable shocks without leaking, and shall be carried in a metal rack or box; each red electric lantern shall be capable of operating continuously for not less than 12 hours and shall be substantially constructed so as to withstand reasonable shock without breakage.

At least three red-burning fuses (if carrier elects to carry and use flares as warning signals), unless the motor vehicle is operated solely on streets or highways which are artificially lighted at night; each fuse shall be made in accordance with specifications of the Bureau of Explosives, 30 Vesey Street, New York, N. Y., and so marked, and shall be capable of burning at least 15 minutes.

At least two red-cloth flags, not less than 12 inches square, with standards.

(Note.—See exception in Section 23(b) of Part II).

BEAT THE DEADLINE...



THE HEAVY DUTY FIRE EXTINGUISHER

For Trucks and Buses

Pyrene is more than the legally approved fire extinguisher; it is an investment in time proven fire protection.

Structurally, it is rugged heavy-gauged brass with reinforced side panels and built-in shock absorbers. Filled with Pyrene Fire Extinguishing Liquid, which is good until used. Will not freeze to 50° below zero.

Built to stand the destructive vibration of daily duty on the road. Mounted in truck type brackets—jolt proof—rattle proof—will outlast the rig it rides with.

READY NOW . . . At All Good Jobbers

Bracket for mounting on dash or other convenient location in cab, at no extra cost.




Special Steering Post Bracket at slight extra cost

Pyrene Manufacturing Company

NEWARK NEW JERSEY

ATLANTA
KANSAS CITY



Pyrene
FIRE EXTINGUISHERS

CHICAGO
SAN FRANCISCO

Fire Extinguishers Tire Chains

New Vehicles

5. Every new motor vehicle acquired by a motor carrier on and after July 1, 1937, shall conform to the following requirements, in addition to those hereinbefore set forth:

Section A.—Lighting Devices

(1) All lights required by these regulations to be permanently affixed to a motor vehicle or combination of motor vehicles shall be electric.

(2) Head lamps shall be of the dual or multiple beam type.

(3) Front clearance lamps shall be amber.

Section B.—Brakes

(1) Every motor vehicle shall be equipped with brakes on all wheels, excepting any full trailer, semitrailer, or pole trailer of a gross weight not exceeding 3,000 pounds; provided, however, that the gross weight of any such full trailer or 4-wheel pole trailer without brakes shall not exceed 40 per cent of the gross weight of the towing vehicle, and that the gross weight of any such semitrailer or two-wheel pole trailer without brakes shall not exceed 40 per cent of the gross weight of the towing vehicle when connected to the semitrailer or two-wheel pole trailer.

(2) Every full trailer, semitrailer, and pole trailer (except those weighing 3,000 pounds gross or less), shall be equipped with brakes of such a character as to be automatically applied upon break-away from the towing vehicle, and means shall be provided to maintain application of the brakes in such case for at least 15 minutes.

Section C.—Safety Glass

(1) Wherever safety glass is used it shall conform to the requirements contained in the "American Tentative Standard, Safety Code for Safety Glass for Glazing Motor Vehicles Operating on Land Highways, Z 26.1—1935," approved by the American Standards Association; provided, however, that "tempered" or "case-hardened" glass shall not be used to meet the requirements of this paragraph.

PART IV.—REPORTING OF ACCIDENTS

Accident reports made by motor carriers in compliance with these regulations shall be for the information of the Commission, and shall not be open to public inspection.

1. Every motor carrier shall mail to the district director, Bureau of Motor Carriers, for the district in which such motor carrier is domiciled, a report in writing as to every accident in which any motor vehicle operated by him or it is involved and from which there results the death of any person, personal injury requiring medical attention, or property damage to an apparent extent amounting to \$100 or more, within 10 days after the date of such accident.

Such report shall include the following information:

(a) Date, hour, and exact location of the accident.

(b) Name and address of the reporting carrier, with identifying number assigned to the carrier by the Interstate Commerce Commission, and signature and title of person making report.

(c) Type of motor vehicle involved.

(d) Number of persons killed or injured, with statement as to whether injuries are of serious or minor nature; and

(e) Estimated amount of property damage.

2. A further detailed report as to each reportable accident shall be furnished promptly by the motor carrier upon demand, using for this purpose a form to be sent to him by the Bureau of Motor Carriers.

3. Whenever the death of any person results from such accidents after the time the motor carrier submits report of the accident to the district director, notice of such death shall be given by the motor carrier in writing to the said district director, as soon as such death is known to the motor carrier, with sufficient information to identify the accident from which the death resulted.

4. Every motor carrier shall make available to the duly authorized representative or representatives of the Interstate Commerce Commission all records which in any way pertain to any reportable accident and shall afford all reasonable assistance in the investigation of any such accident.

Offices of District Directors

Offices of the district directors of Bureau of Motor Carriers are: Boston, New York City, Philadelphia, Pittsburgh, Charlotte, N. C., Atlanta, Ga., Nashville, Tenn., Chicago, Minneapolis, Kansas City, Little Rock, Ark., Fort Worth, Tex., Denver, Salt Lake City, Portland, Ore., San Francisco. Effective dates are April 1, 1937, for Part 4 and July 1, 1937, for Parts 1, 2 and 3.

A P P R O X I M A T E L Y



THE WEAR IN NEW ENGINES

The Research Department of The Institution of Automobile Engineers (London, England) has carried out a series of tests to compare the rate of wear in the cylinder of a new engine lubricated with plain oil and with oil containing "dag" colloidal graphite.

The total loss by wear, recorded by measurement on the piston rings, when oil containing colloidal graphite, was used, was approximately 50% of that in the case of plain oil. The curves plotted for wear with plain oil and oil containing Acheson's colloidal graphite, "dag" Brand, showed a clear difference between the two lubricants, that for the latter being constantly about one half of the wear with plain oil.

It is very important to control wear in the new engine. Colloidal graphite does this while the engine is freeing itself. The working surfaces are also conditioned so that metal pick-up is reduced during running-in.

It has been mentioned that the conditions of the above tests accentuated the factors which give rise to wear in cold running. The tests were made to resemble road conditions where an engine stops and starts frequently, with much idling in between.

We will be glad to forward literature which gives more fully, the details surrounding the running of this test.

Ask your oil supplier about his colloidal-graphited oils today

ACHESON COLLOIDS CORPORATION
PORT HURON MICHIGAN

Official Summary of Institution Report

"A sample of running-in compound containing 'Acheson's' colloidal graphite—"dag" Brand—was submitted on April 4th, 1935, for test purposes with respect to its effect on cylinder and piston ring wear in a new engine during the running-in period. Comparative tests were carried out on a plain oil and on oils containing proportions of running-in compound recommended by E. G. Acheson, Ltd. An unused cylinder barrel and unused piston ring were used in testing each lubricant and the test procedure involved repeated starts from cold, so that a certain amount of cylinder corrosion probably occurred. The results show that during the running-in period the wear with oil containing colloidal graphite was approximately half that observed with plain oil."

For and on behalf of

The R. and S. Committee of the I. A. E.
(Signed) C. G. WILLIAMS
DIRECTOR OF RESEARCH.

dag

COLLOIDAL PRODUCTS

COLLOIDAL GRAPHITE

DAG COLLOIDAL GRAPHITE IS A 100% AMERICAN MADE MATERIAL

Federal Motor Carrier Act

(CONTINUED FROM PAGE 69)

farmer and used in the transportation of his agricultural commodities and products thereof, or in the transportation of supplies to his farm; or motor vehicles controlled and operated by a cooperative association, as defined in the Agricultural Marketing Act, approved June 15, 1929, as amended; or motor vehicles used exclusively in carrying livestock, fish, including shellfish, or agricultural commodities, not including manufactured products thereof; or motor vehicles used exclusively in the distribution of newspapers.

GENERAL DUTIES AND POWERS OF THE COMMISSION

Sec. 204 deals with General Duties and Powers of the Commission. The Commission is authorized to establish reasonable require-

ments with respect to uniform accounts, records, hours of service, safety of operation and equipment for common and contract carriers. For common carriers, the ICC also may establish requirements with respect to "continuous and adequate service." If necessary, requirement to promote safety of operation, such as maximum hours for employees and standards of equipment, may be set up for private carriers. Brokers will be licensed and regulated as to financial responsibility, accounts, operations, practices, etc.

ADMINISTRATION

Sec. 205. (a) Excepting a matter which is referred to a joint board as hereinafter provided, any matter arising in the administration of this part requiring a hearing shall be heard and decided by the Commission, or be referred to a member or examiner of the Commission for hearing and the recommendation of an appropriate order thereon. Any order recommended by the member or examiner with respect to such matter shall be in writing and be accompanied by the reasons therefor, and shall

be filed with the Commission. Copies of such recommended order shall be served upon interested parties who may file exceptions thereto, but if no exceptions are filed within 30 days after service, or within such further period as the Commission may authorize, such recommended order shall become the order of the Commission. Where exceptions are filed it shall be the duty of the Commission to consider the same.

(b) The Commission shall, when operations of motor carriers or brokers conducted or proposed to be conducted involve not more than three States, and the Commission may, in its discretion, when operations of motor carriers or brokers conducted or proposed to be conducted involve more than three States, refer to a joint board for appropriate proceedings thereon, any of the following matters arising in the administration of this part with respect to such operations: Applications for certificates, permits, or licenses; the suspension, change, or revocation of such certificates, permits, or licenses; applications for the approval and authorization of consolidations, mergers, and acquisitions of control or operating contracts; complaints as to violations by motor carriers or brokers of the requirements established under section 204; and complaints as to rates, fares, and charges of motor carriers or the practices of brokers.

(c) If no joint board is in existence, the Commission shall create a joint board. A joint board shall consist of a member from each State in which the motor carrier or brokerage operations involved are or are proposed to be conducted. The member shall be nominated by the board of such State from its own membership or otherwise; or if there is no board, or if the board fails to make a nomination when requested, then the Governor of such State may nominate such member. If both the board and the Governor of any State shall fail to nominate a joint board member when requested, then the joint board shall be constituted without a member from such State, if members for two or more States shall have been nominated and approved by the Commission. All decisions and recommendations by joint boards shall be by majority vote.

(h) Any final order under this part shall be subject to the right of relief in court by any party in interest.

APPLICATION FOR CERTIFICATE

Sec. 206. (a) No common carrier by motor vehicle subject to the provisions of this part shall engage in any interstate or foreign operation on any public highway, unless there is in force with respect to such carrier a certificate of public convenience and necessity issued by the Commission; **Provided, however,** That subject to section 210, if any such carrier or a predecessor in interest was in bona fide operation as a common carrier by motor vehicle on June 1, 1935, over the route or routes or within the territory for which application is made and has so operated since that time, or if engaged in furnishing seasonal service only, was in bona fide operation on June 1, 1935, during the season ordinarily covered by its operation, the Commission shall issue such certificate without requiring further proof if application for such certificate is made to the Commission as provided in paragraph (b) of this section and within one hundred and twenty days after this section shall take effect, and if such carrier was registered on June 1, 1935, under any code of fair competition requiring registration, the fact of registration shall be evidence of bona fide operation to be considered in connection with the issuance of such certificate. Otherwise the application for such certificate shall be decided in accordance with the procedure provided for in section 207 (a). Pending the determination of any such application the continuance of such operation shall be lawful.

ISSUANCE OF CERTIFICATE

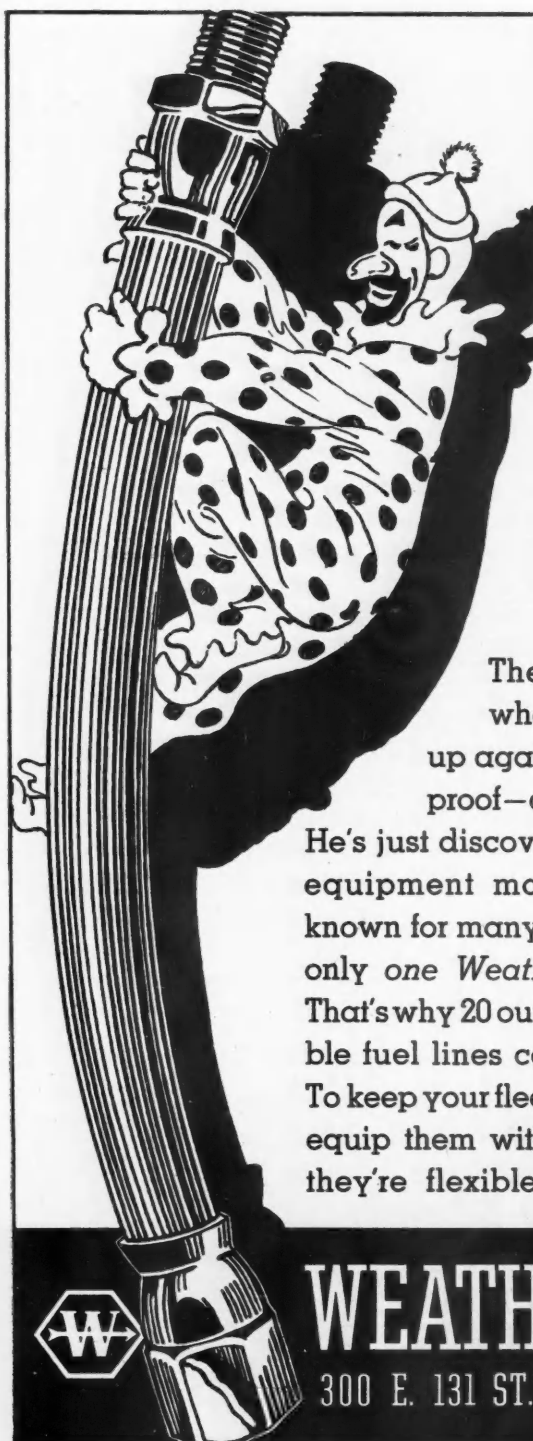
Sec. 207. (a) Subject to Section 210, a certificate shall be issued to any qualified applicant therefor, authorizing the whole or any part of the operations covered by the application, if it is found that the applicant is fit, willing, and able properly to perform the service proposed and to conform to the provisions of this part and the requirements, rules and regulations of the Commission thereunder, and that the proposed service, to the extent to be authorized by the certificate, is or will be required by the present or future public convenience and necessity; otherwise such application shall be denied.

TERMS AND CONDITIONS OF CERTIFICATE

Sec. 208. (a) Any certificate issued under Section 206 or 207 shall specify the service to be rendered and the routes over which, the

(TURN TO PAGE 101, PLEASE)

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FUEL-PROOF LINES

The little fella knows when he's licked! He's up against a line that's fuel proof—and vibration proof.

He's just discovered what original equipment manufacturers have known for many years—that there's only one *Weatherhead Fuel Line*. That's why 20 out of 22 cars with flexible fuel lines carry Weatherhead. To keep your fleets right on schedule equip them with fuel-proof lines—they're flexible and dependable.

WEATHERHEAD

300 E. 131 ST. CLEVELAND, OHIO

(CONTINUED FROM PAGE 98)

fixed termini, if any, between which, and the intermediate and off-route points, if any, at which, and in case of operations not over specified routes or between fixed termini, the territory within which, the motor carrier is authorized to operate. However, no terms, conditions, or limitations shall restrict the right of the carrier to add to his or its equipment and facilities over the routes between the termini, or within the territory specified in the certificate, as the development of the business and the demands of the public shall require.

(b) A common carrier may occasionally deviate from the route over which it is authorized to operate under the certificate, under such general or special rules and regulations as the Commission may prescribe.

PERMITS FOR CONTRACT CARRIERS

Sec. 209. (a), (b)—[This follows the wording of Sec. 206 (a) and (b) and 207 (a) except that "permit" is substituted for "certificate" and irrelevant parts are omitted. The grandfather clause is dated July 1, 1935]. The following is continued in (b)—The Commission shall specify in the permit the business of the contract carrier covered thereby and the scope thereof. However, no terms, conditions, or imitations shall restrict the right of the carrier to substitute or add contracts within the scope of the permit, or to add to his or its equipment and facilities, within the scope of the permit, as the development of the business and the demands of the public may require.

DUAL OPERATION

Sec. 210. No person after January 1, 1936, shall at the same time hold a certificate as a common carrier and a permit as a contract carrier over the same route or within the same territory, unless for good cause shown the Commission shall find that such certificate and permit may be held consistent with the public interest.

BROKERAGE LICENSES

Sec. 211. (a) No person shall for compensation sell or offer for sale transportation subject to this part or shall make any contract, agreement, or arrangement to provide, procure, furnish, or arrange for such transportation or shall hold himself or itself out by advertisement, solicitation, or otherwise as one who sells, provides, procures, contracts, or arranges for such transportation, unless such person holds a broker's license issued by the Commission to engage in such transactions: Provided however, That no such person shall engage in transportation subject to this part unless he holds a certificate or permit as provided in this part. In the execution of any contract, agreement, or arrangement to sell, provide, procure, furnish, or arrange for such transportation, it shall be unlawful for such person to employ any carrier by motor vehicle who or which is not the lawful holder of an effective certificate or permit.

(b) A brokerage license shall be issued to any qualified applicant therefor, authorizing the whole or any part of the operations covered by the application, if it is found that the applicant is fit, willing, and able properly to perform the service proposed. Any broker in operation when this section takes effect may continue such operation for a period of one hundred and twenty days thereafter without a license, and if application for such license is made within such period, the broker may, under such regulations as the Commission shall prescribe, continue such operations until otherwise ordered.

SUSPENSION, CHANGE, REVOCATION, AND TRANSFER OF CERTIFICATES, PERMITS, AND LICENSES

Sec. 212. (a) Certificates, permits, and licenses shall be effective from the date specified therein, and shall remain in effect until terminated as herein provided. Any such certificate, permit, or license may, upon application of the holder thereof, in the discretion of the Commission, be amended or revoked, in whole or in part, or may upon complaint, or on the Commission's own initiative, after notice and hearing, be suspended, changed, or revoked, in whole or in part, for wilful failure to comply with any provision of this part, or with any lawful order, rule, or regulation of Commission promulgated thereunder, or with any term, condition, or limitation of such certificate, permit or license: Provided, however, That no such certificate, permit, or license shall be revoked (except upon application of the holder) unless the holder thereof willfully fails to comply, within a reasonable time, not less than ninety days, to be fixed by the Commission, with a lawful order of the Commission, made as provided in Section 204 (d).

(b) Except as provided in Section 213, any

certificate or permit may be transferred, pursuant to such rules and regulations as the Commission may prescribe.

CONSOLIDATION, MERGER, AND ACQUISITION OF CONTROL

Sec. 213. It shall be unlawful under conditions specified below, but under no other conditions, for two or more motor carriers which are not also carriers by railroad to consolidate or merge their properties, or any part thereof, into one corporation for the ownership, management, and/or operation of the properties theretofore in separate ownership, or for any such motor carrier or two or more such carriers jointly, to purchase, lease, or contract to operate the properties, or any part thereof, of another such carrier; or for any such motor carrier or two or more such carriers jointly, to acquire control of another such carrier through purchase of its stock, or for a person who is not a motor carrier or a carrier by railroad, or express, or water to acquire control of two or more motor carriers through ownership of their stock; or for any such person which

has control of one or more motor carriers to acquire control of another such carrier through ownership of its stock; or for a carrier by railroad, express, or water to consolidate, or merge with, or acquire control of, any motor carrier or to purchase, lease, or contract to operate its properties, or any part thereof.

Whenever a consolidation, merger, purchase, lease, operating contract, or acquisition of control is proposed under this section, the carrier or carriers or the person seeking authority therefore shall present an application to the Commission.

Except where a carrier other than a motor carrier is an applicant or any person which is controlled by such a carrier or carriers by railroad or affiliated therewith within the meaning of Section 5 (8) of Part 1, the provisions of this section requiring authority from the Commission for consolidation, merger, purchase, lease operating contract, or acquisition of control shall not apply where the total number of motor vehicles involved is not more than twenty.

(TURN TO NEXT PAGE, PLEASE)

EQUIP WITH DIETZ LITES FOR HARD SERVICE & I.C.C. COMPLIANCE

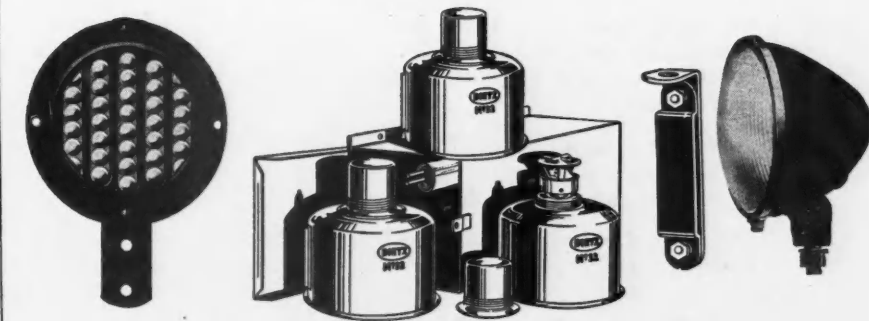


BUY "QUALITY" for Service and Economy. The new I. C. C. Regulations have a permanency that makes Dietz high grade Lites and Signals the logical equipment to stand the hard wear of daily use over a long period.

Dietz Lites and Signals display the modern styling that mates with the newest and best of trucks and buses. They have the structural ruggedness that can "take it."

Your Supply Dealer will be glad to show you Dietz Lites and Signals. You will also find our up-to-date Catalog decidedly useful for reference. Send for a Copy.

- MARKER LITES
- CLEARANCE LITES
- HEADLITES
- SEARCHLITES
- FLOODLITES
- TAIL & STOP LITES
- FOG LITES
- DIRECTION SIGNALS
- REAR VISION MIRRORS
- FLARES (POT TORCHES) AND FLAGS



R. E. DIETZ COMPANY, NEW YORK
PIONEER MAKERS OF VEHICLE LAMPS, FOUNDED 1840

HEAD LIGHTS • TAIL LIGHTS • MARKER LIGHTS • DITCH, FOG & SPOT LIGHTS • DIRECTION SIGNALS
TRUCK FLARES • REAR VISION MIRRORS • FLOOD LIGHTS • CATAPHOTE REFLECTORS • FIRE EXTINGUISHERS

(CONTINUED FROM PAGE 101)

ISSUANCE OF SECURITIES

Sec. 214. [This explains that approval of the Commission is not necessary if securities do not exceed \$500,000.]

SECURITY FOR PROTECTION OF PUBLIC

Sec. 215. No certificate or permit shall be issued or remain in force, unless the carrier complies with such reasonable rules and regulations as the Commission shall prescribe governing the filing and approval of surety bonds, policies of insurance, qualifications as to a self-insurer or other securities or agreements, in such reasonable amount as the Commission may require. . . . Any carrier which may be required by law to compensate a shipper and/or consignee for any loss, damage, or default for which a connecting motor common carrier is legally responsible shall be subrogated to the rights of such shipper and/or consignee under any such bond, policies of insur-

ance, or other securities or agreements, to the extent of the sum so paid.

RATES AND CHARGES OF COMMON CARRIERS

Sec. 216. (b) It shall be the duty of every common carrier to provide safe and adequate service, equipment, and facilities; to establish, observe, and enforce just and reasonable rates, charges, and classifications, and just and reasonable regulations and practices relating thereto and to the manner and method of presenting, marking, packing, and delivering property.

(c) Common carriers of property by motor vehicle may establish reasonable through routes and joint rates, charges, and classifications with other such carriers or with common carriers by railroad and/or express and/or water. In case of such joint rates or charges it shall be the duty of the carriers parties thereto to establish just and reasonable regulations and practices, and just, reasonable, and equitable divisions as between the carriers participating which shall not unduly prefer or prejudice any

of such participating carriers.

(d) It shall be unlawful for any common carrier to cause any undue or unreasonable preference or advantage or any unjust discrimination. However, this paragraph shall not be construed to apply to discriminations, prejudice or disadvantage to the traffic of any other carrier of whatever description.

(e) Any person, State board, organization, or body politic may make complaint in writing to the Commission that any such rate, charge, classification, rule, regulation, or practice, in effect or proposed to be put in effect, is or will be in violation of this Section or of Section 217. Whenever, after hearing, upon complaint or in an investigation on its own initiative, the Commission shall be of the opinion that any individual, or joint rate, or charge, or any classification, rule, regulation, or practice whatsoever, is or will be unjust or unreasonable, it shall determine and prescribe the lawful rate or charge or the maximum or minimum, or maximum and minimum rate or charge to be observed, or the lawful classification, rule, regulation or practice thereafter to be made effective: Provided, however, That nothing in this part shall empower the Commission to prescribe, or in any manner regulate, the rate or charge for intrastate transportation, or for any service connected therewith, for the purpose of removing discrimination against interstate commerce or for any other purpose whatever.

(f) Whenever, after hearing, upon complaint or upon its own initiative, the Commission is of opinion that the divisions of joint rates, fares, or charges, are or will be unjust or unreasonable, as between the carriers parties thereto (whether agreed upon by such carriers, or any of them, or otherwise established), the Commission shall prescribe the just, reasonable, and equitable divisions thereof to be received by the several carriers, and in cases where the joint rate or charge was established pursuant to a finding or order of the Commission and the divisions thereof are found by it to have been unjust or unreasonable, the Commission may also require adjustment to be made.

(g) Whenever there shall be filed with the Commission any schedule stating a new individual or joint rate, charge, or classification, or any rule, regulation, or practice affecting such rate or charge, the Commission is empowered upon complaint of any interested party or upon its own initiative at once and, if it so orders, without answer or other formal pleading by the interested carrier or carriers, but upon reasonable notice, to enter upon a hearing concerning the lawfulness of such rate or charge, or such rule, regulation, or practice, and pending such hearing and the decision thereon the Commission, by filing with such schedule and delivering to the carrier or carriers affected thereby a statement in writing of its reasons for such suspension, may suspend the operation of such schedule and defer the use of such rate, or charge, or such rule, regulation, or practice, for a period of ninety days and if the proceeding has not been concluded and a final order made within such period the Commission may from time to time, extend the period of suspension by order, but not for a longer period in the aggregate than one hundred and eighty days beyond the time when it would otherwise go into effect; and after hearing, whether completed before or after the rate, charge, classification, rule, regulation, or practice goes into effect, the Commission may make such order with reference thereto as would be proper in a proceeding instituted after it had become effective. If the proceeding has not been concluded and an order made within the period of suspension, the proposed change shall go into effect at the end of such period: Provided, That this paragraph shall not apply to any initial schedule or schedules filed by any such carrier in bona fide operation when this section takes effect.

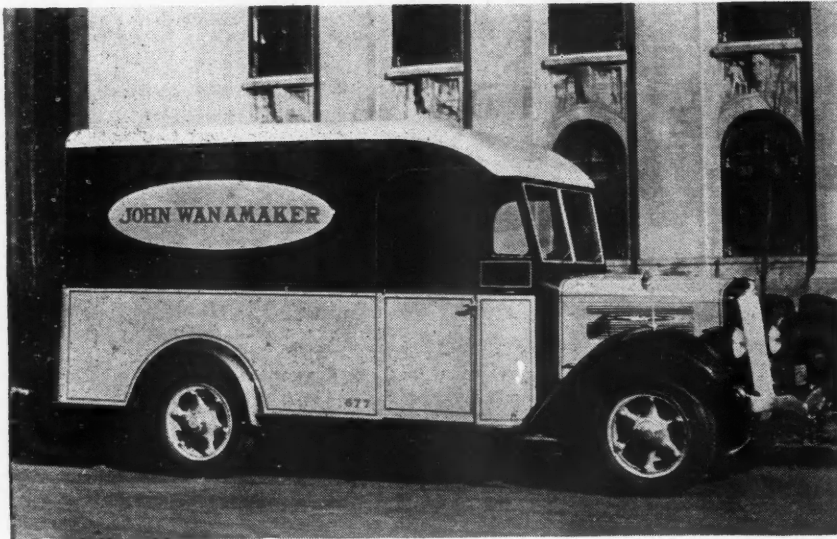
(h) In any proceeding to determine the justness or reasonableness of any rate, there shall not be allowed as elements of value of the property either good will, earning power, or the certificate.

(i) In prescribing just and reasonable rates the Commission shall give due consideration to the inherent advantages of transportation by such carriers to the effect of rates upon the movement of traffic by such carriers; to the need, in the public interest, of adequate and efficient transportation service by such carriers at the lowest cost consistent with the furnishing of such service; and to the need of revenues sufficient to enable such carriers, under honest, economical, and efficient management, to provide such service.

TARIFFS OF COMMON CARRIERS

Sec. 217. (a) Every common carrier by motor vehicle shall file with the Commission, and print, and keep open to public inspection, tariffs showing all the rates and charges for transportation, and all services in connection

(TURN TO PAGE 104, PLEASE)



AN ADVERTISEMENT

EVERY body of Met-L-Wood Ribless is an advertisement of enduring and compelling beauty for its owner (and, incidentally, for Met-L-Wood). Its bright distinction emphasizes the discrimination of its owner as well as the quality of the goods which his truck carries.

Nor is the beauty of Met-L-Wood the only factor which enhances the business reputation of the truck owner who specifies Met-L-Wood Ribless. Its light weight and great strength plus the greater loading space which its smooth inside galvanized steel surface makes possible, insure the truck owner the kind of reliable carrying which builds up more business.

And you will find that Met-L-Wood Ribless designed and constructed bodies retain their good looks and strength long after contemporary bodies have been scrapped.

May we show you how Met-L-Wood Ribless will enhance the beauty, the strength, and the efficiency of your fleet?

MET-L-WOOD CORP.

6755 W. 65th Street

Chicago, Illinois



● The price-tag does not tell you how much a tire *really* costs. It gives you only the purchase price, and is unimportant. The real cost of any tire can never be determined until its full mileage is run. Then only can you arrive at a true basis of comparison.

Recognizing these fundamentals, General truck tires are built stronger—to wear longer, and give better service

over a greater period of time.

It costs more to build a General tire because of the way it is built. Thousands of truck operators know it costs less to use Generals because of the way they perform. Your local General Tire dealer is ready to offer you the benefit of his factory training and practical truck tire knowledge. He may be able to reduce your tire costs materially.

THE GENERAL TIRE & RUBBER CO. • AKRON, O.

In Canada: The General Tire & Rubber Co. of Canada, Ltd., Toronto, Ontario

STRONGER—All plies are *full* plies anchored at the bead—no floating “breaker strips”—every inch and every ounce is there for just one purpose—to produce more miles and a lower cost for you.

COOLER—They flex uniformly without that heat-producing “hinging action” of ordinary breaker-strip tires. Heat kills the life of cords and cuts down the miles in a tire. Generals are *cool*—that’s why they run more miles at a lower cost for you.

“COMPACT RUBBER” TREADS—All tires stretch due to fatigue in the fabric, but Generals, having no idle, half-way plies, stretch least of all. The tread is kept compact and compressed against the road—that’s why it produces more miles and reduces your cost.

**THE TRACTION
TREAD**

**THE
HIGHWAY**

**THE COMMERCIAL
DELIVERY**

**THE CLEATED
TRACTOR**

**THE
JUMBO**

**THE
ALL-GRIP**



One of the most complete lines in the business—each tire built to give you more miles for less money

GENERAL TRUCK TIRES

(CONTINUED FROM PAGE 102)

therewith. The tariffs shall be published, filed, and posted in such form and manner, and shall contain such information, as the Commission by regulation shall prescribe.

(b) No common carrier by motor vehicle shall charge a greater or less or different compensation than the rates and charges specified in the tariffs in effect at the time; and no such carrier shall refund or remit in any manner any portion of the rates, or charges, or extend any privileges or facilities except such as are specified.

(c) No change shall be made in any effective tariff except after 30 days' notice. The Commission may, for good cause shown, allow such change upon notice less than that herein specified.

SCHEDULES OF CONTRACT CARRIERS

Sec. 218. (a) It shall be the duty of every contract carrier by motor vehicle to file with the Commission, publish, and keep open for

public inspection, in the form and manner prescribed by the Commission, schedules or, in the discretion of the Commission, copies of contracts containing the minimum charges of such carrier, and any rule, regulation, or practice affecting such charges and the value of the service thereunder. No reduction shall be made in any such charge except after thirty days' notice; but the Commission may, for good cause shown, allow such change upon less notice. No such carrier shall charge a less compensation than the charges filed, and it shall be unlawful, by the furnishing of special services, to charge less than the minimum charges filed: Provided, That any such carrier may apply for relief from the provisions of this paragraph, and the Commission may, after hearing, grant such relief.

(b) Whenever, after hearing upon complaint or its own initiative, the Commission finds that any charge of any contract carrier or carriers contravenes the policy declared in Section 202 (a), the Commission may prescribe such minimum charge as in its judgment may be desirable in the public interest. Such mini-

mum charge shall give due consideration to the cost of the services rendered and to the effect of such minimum charge upon the movement of traffic by such carriers.

(c) [Follows the wording of Sec. 216 (g).]

RECEIPTS OR BILLS OF LADING

Sec. 219. The provisions of Section 20 (11) of Part I [the original Interstate Commerce Act] shall apply with like force and effect to receipts or bills of lading of common carriers by motor vehicles.

ACCOUNTS, RECORDS AND REPORTS

Sec. 220. (a) The Commission is authorized to require annual, periodical, or special reports from all motor carriers [and brokers] to prescribe the manner and form in which such reports shall be made, and to require from such carriers specific answers to all questions upon which the Commission may deem information to be necessary.

ORDERS, NOTICES, AND SERVICE OF PROCESS

Sec. 221. (a) It shall be the duty of every motor carrier and broker to file with the board of each State in which it operates under a certificate or permit issued under this part, and with the Commission, a designation in writing of the name and post-office address of a person upon whom or which service of notices or orders may be made under this part. Whenever notice is given by registered mail the date of mailing shall be considered as the time when notice is served.

UNLAWFUL OPERATION

Sec. 222. (a) Any person knowingly violating any provision of this part, or any rule, regulation, or order thereunder, or any term or condition of any certificate, permit, or license, for which a penalty is not otherwise herein provided, shall, upon conviction, be fined not more than \$100 for the first offense and not more than \$500 for any subsequent offense. Each day of such violation shall constitute a separate offense.

(c) Any person, whether carrier, shipper, consignee, or broker, or any officer, employee, agent, or representative thereof, who shall knowingly offer, give, solicit, accept, or receive any rebate, concession, or discrimination in violation of any provision of this part, or who shall knowingly assist or permit any person to obtain transportation of property subject to this part for less than the applicable rate, or who shall fraudulently seek to evade or defeat regulation as in this part provided for motor carriers or brokers, shall be deemed guilty of a misdemeanor and upon conviction thereof be fined not more than \$500 for the first offense and not more than \$2,000 for any subsequent offense.

(d) Any special agent or examiner who divulges any fact or information which may come to his knowledge during the course of the examination of the accounts, records, and memoranda of motor carriers or brokers, except as he may be directed by the Commission or by a court, shall be subject, upon conviction, to a fine of not more than \$5,000 or imprisonment not exceeding two years, or both.

COLLECTION OF RATES AND CHARGES

Sec. 223. No common carrier by motor vehicle shall relinquish possession at destination of any freight until all tariff rates and charges thereon have been paid, except under such rules and regulations as the Commission may from time to time prescribe to govern the settlement of all such rates and charges, including rules and regulations for weekly or monthly settlement: Provided, That these provisions shall not be construed to prohibit any carrier from extending credit on freight transported for the United States, for any State or Territory or the District of Columbia.

IDENTIFICATION OF INTERSTATE CARRIERS

Sec. 224. The Commission is authorized, under such rules and regulations as it shall prescribe, to require the display upon each motor vehicle operated under a certificate or permit suitable identification plate or plates, to provide for the issuance of such plates, and to require the payment by such carriers of the reasonable cost thereof.

INVESTIGATION OF SIZES, WEIGHTS, ETC.

Sec. 225. The Commission is hereby authorized to investigate and report on the need for the Federal regulation of the sizes and weight of motor vehicles and combinations of motor vehicles and of the qualifications and maximum hours of service of employees of all motor carriers and private carriers of property by motor vehicle.



TOUGH!...

It takes a tough truck to haul these 43 ton sections of concrete pipe over the sand dunes and sun-baked foot-hills of California!

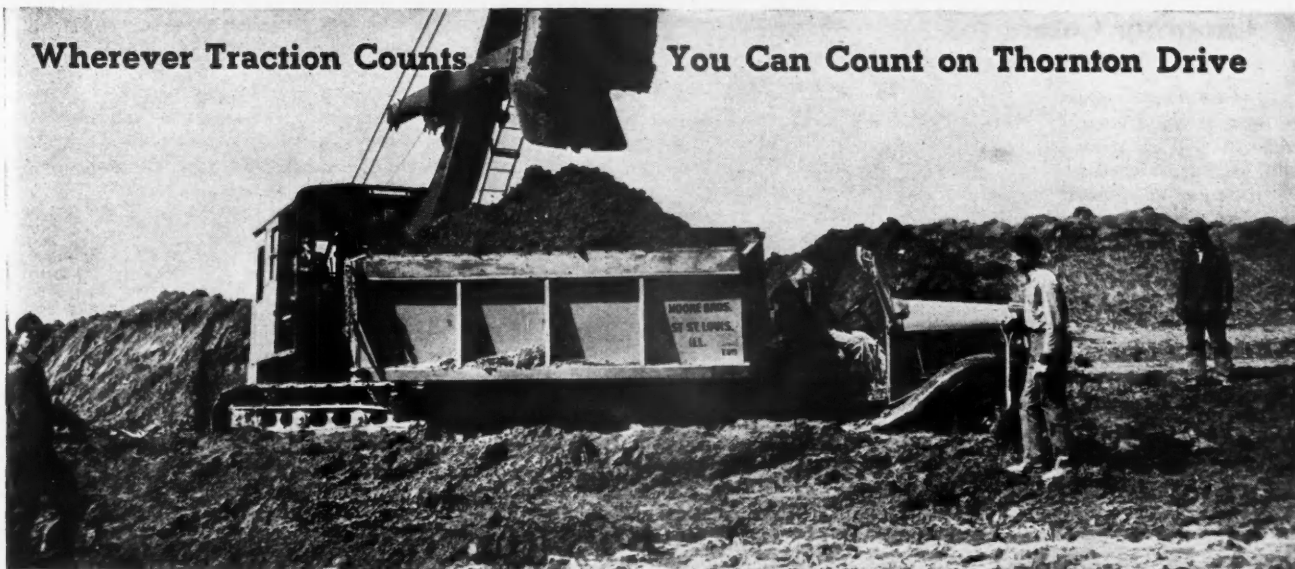
Sterling trucks have a nation-wide reputation for their ruggedness and ability to stand the "gaff". Sterlings — gasoline or Diesel powered, with bevel, double-reduction, or chain drive—are built to suit your particular needs, and assure superior performance, greater economy, and longer life.

Choose Sterlings—there is no job too tough for them!

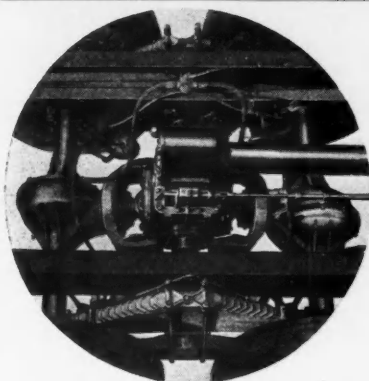
Sterling
MOTOR
TRUCKS

STERLING MOTORS CORPORATION
MILWAUKEE WISCONSIN

Wherever Traction Counts You Can Count on Thornton Drive



THORNTON FOUR REAR WHEEL DRIVE



The Thornton Drive consists of two standard rear driving axles; transfer case containing dual ratio transmission (giving four power ranges and four speed ranges); supported by trunnion tubes to frame-brackets and located midway between the driving axles; two high-angular universal joints directly connecting the Thornton Transmission with the pinion shafts of both axles; two torque yokes designed to take driving and braking torque reactions, rigidly fastened to the axles but pivoting from trunnion ring on case; heavy-duty dual spring assemblies mounted for walking beam action on the trunnion tube ends; deep channels that envelop the truck frame members; shifter control; additional brake members, wheels and tires.

Your payloads are restricted in yardage and tonnage by the extent of the ability of your trucks to pull through the **WORST SECTION** of the hauling route—which is often only a very short portion of the entire trip. When ordinary heavy trucks with single driving axles leave the pavement and hit a soft spot their limited rim-pull, limited flotation and limited traction often fail in the pinch, and there you are, stalled, losing time and money, until help arrives.

A standard 1½-ton truck, such as Ford or Chevrolet, with Thornton Four Rear Wheel Drive engineered into it, will pull a 9-ton payload through the soft stuff that "stumps" the big fellows, make more trips per day, handle more yards, and cost less to operate.

Thornton Drive Transmission, in conjunction with the standard truck transmission, provides eight forward speeds and two reverse. Final gear ratio of 87 to 1 gives tremendous rim-pull. Wheelbases range from 142" to 207" and take bodies 8 to 20 feet long.

Write today for complete information. Mention make of chassis you prefer, and intended body length. We can help you save 30 per cent to 50 per cent in first cost and perhaps as much as 60 per cent in operating expense.

THORNTON TANDEM CO.
5134 BRADEN STREET - DETROIT, MICH.

Famous names appear on Thornton equipment—names that stand for years of experience in heavy-duty fleet operation. Wherever daily schedules **MUST** be met, **REGARDLESS** of snow, ice or severe grades, Thornton Drive's positive traction, broad speed range, dependability, and operating economy are invaluable.



COMMERCIAL CAR JOURNAL
APRIL, 1937



MICHIGAN



NEW JERSEY



ILLINOIS

Choosing Colors for Safety

(CONTINUED FROM PAGE 79)

be seen at an average of about 260 ft., while the red on green could not be read until one approached to within about 90 ft. Distances of visibility would increase, of course, with the size of the object. Summing up the result, it appears that value contrast, or the contrast of lightness and darkness, is first in importance for distance legibility. Chroma, however, is also a contributory factor.

Black on white had the greatest value difference, yet was second, while black on yellow with less value difference took first place. Red and green, while having the

strongest chroma, in other words, being the brightest colors, were so nearly of the same value and chroma that there was little contrast. In the case of red and white, in which there is both a chroma and a value contrast, the legibility was probably marred by the fact that red letters and lines have a tendency to seem fuzzy.

The fact that value contrast is first in importance for distance legibility is most helpful, for it opens the field of possible color combinations far wider than if chroma alone were responsible for legibility or visibility.

Many people are afflicted with some sort of color-blindness. This may be limited to a blindness to red and green,

blue and yellow. Sometimes they are blind only to the extent that, while they can readily distinguish pure red and green or blue and yellow, they cannot distinguish variations of these hues such as pink, pea-green or lavender, or powder blue, tan or turquoise. A small percentage of people are entirely color blind, meaning that they live in a world that is entirely black, white and grey.

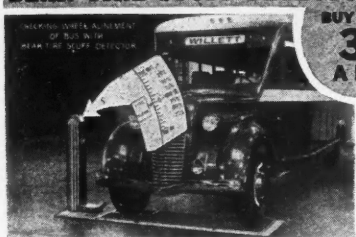
Such people cannot distinguish chroma differences, but they can distinguish value differences, just as a camera photographs red as black and light blue as white. Such people can easily see a difference between black and white, black and yellow, red

FLEET OWNERS!

*what
are you waiting for?*



BEAR TIRE SCUFF DETECTOR



Requires only a few seconds to make an accurate test of front and rear wheel alignment under roadlike conditions. Shows in fractions exact condition of alignment and indicates tire wear in percentages.

BUY IT FOR
**33¢
A DAY**

*Can't
you
afford*

33¢ A DAY?

- to increase **TIRE MILEAGE**
20% to 30%
- to reduce your **MAINTENANCE COSTS**
- and **MAKE YOUR FLEET CONFORM TO SAFETY REQUIREMENTS!**

Just 33¢ a Day—or LESS... on TERMS-TO-SUIT puts the Bear Tire Scuff Detector to work for you saving tires, saving maintenance costs, saving accident expense... and safeguarding life!

Neglect is costly—an error in front wheel alignment of only $\frac{1}{16}$ inch drags the tire sideways 1 mile in every hundred. Rear wheels are just as important; misalignment makes cars "dog gaited," causing not only hard steering, excessive tire wear but increased wear on all bearings and bushings.

Neglect is deadly—a scuffing tire is a slipping tire, awaiting but a wet spot or sudden brake application for a skid that might prove fatal!

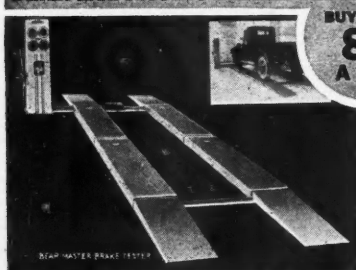
No wonder that Fleet operators all over the nation have found for quick tests, the new Bear Scuff Detector—pays for itself over and over again! No wonder that the first purchase of Bear Safety Equipment leads to the installation of other equally money saving accident prevention Bear Equipment... Bear Hydraulic Brake Testers, Bear Headlight Testers, Bear Frame and Axle Straighteners. All are available ON PARTIAL PAYMENT PLANS TO SUIT YOUR REQUIREMENTS.

And remember, when you purchase Bear Equipment you are purchasing the products of the world's largest manufacturer of automotive Safety Equipment.

FREE TO FLEET OPERATORS

Complete catalog of Bear Testing and Correction Equipment and details of LIBERAL PARTIAL PAYMENT PLAN!

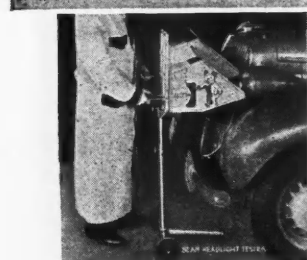
BEAR HYDRAULIC BRAKE TESTER



Quickly performs either drive-on or hook-up tests. Indicates brake drag, loose brakes, glazed linings and all other brake defects. Gives individual readings for each brake. A hydraulic tester built of genuine Lockheed parts.

BUY IT FOR
**86¢
A DAY**

BEAR HEADLIGHT TESTER

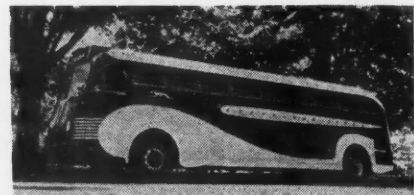


Quickly and accurately shows exact aim of the beam, high or low at 25 feet. Employs a new principle of trapping high and low rays with dual ray selectors and registering them on screen. Checks bulb in focus with reflector and bulb strength. Does not require an engineer to operate.

BUY IT FOR
**9¢
A DAY**

BEAR Safety Equipment

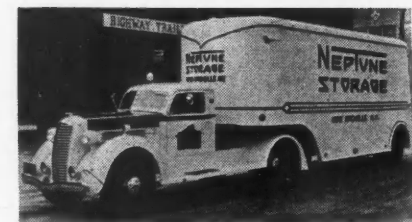
BEAR MFG. CO., ROCK ISLAND, ILL.



The finish on Greyhound buses is a striking example of a contrasting color scheme

and white, red and yellow, dark blue and white, dark blue and yellow, dark blue and light blue, dark green and white, yellow or light green, while such combinations as red and medium or dark green, red and medium or dark blue, black and red, yellow and white, pale blue or green and yellow, would seem to be barely perceptible variations of grey or black. So, in selecting color schemes for safety, care must be taken to achieve the necessary contrast of lightness and darkness in order to help those already denied many of the safeguards available to the normal-visioned person.

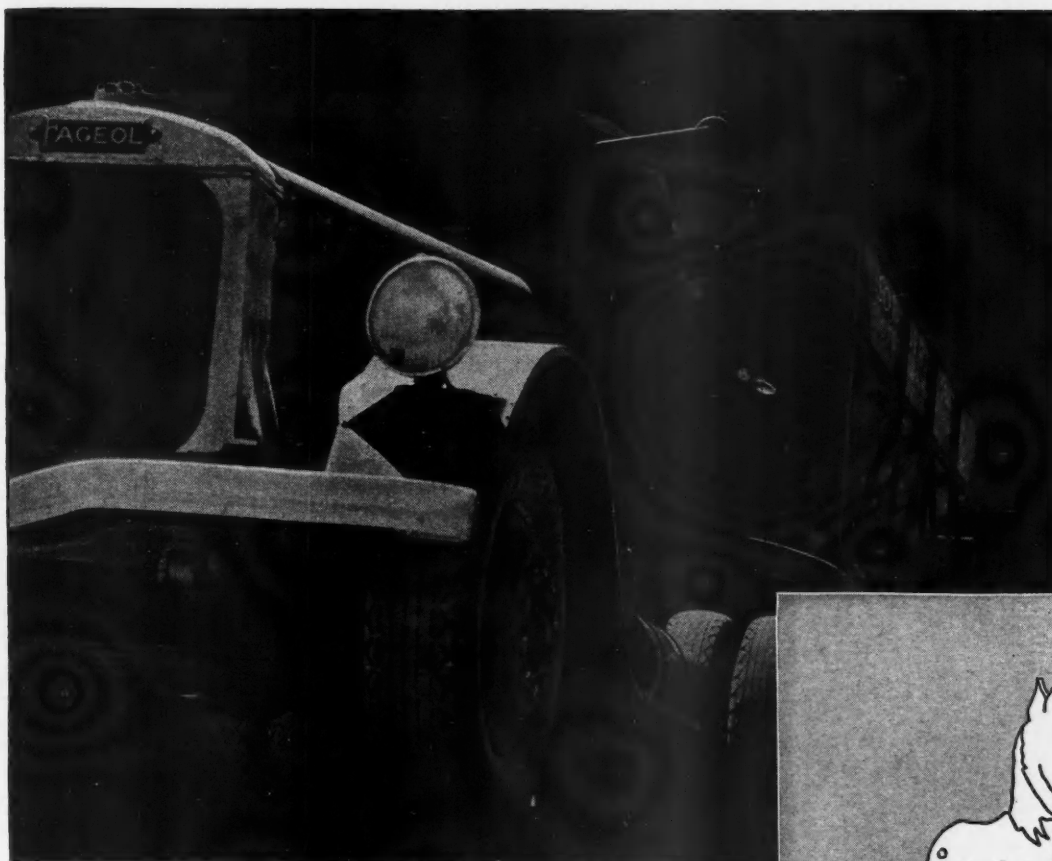
Even with these limitations, the truck owner still has a wide field of color selection left to him for the purpose of identifying his trucks with a distinctive color scheme that will suggest his business. Always, however, careful consideration should be given to the locale in which the



The bold color scheme of this truck and trailer makes the unit easily visible

trucks are driven. Visible though white may be, ordinarily, appropriate as the color for a laundry wagon it may be, a white truck most certainly will not be highly visible while operating in a residential district in which most of the houses are white.

Smart as is dark green as a color for exclusive-looking delivery trucks, it will be entirely lost in places where there is dense foliage all year 'round. Lovely golden brown may be an excellent color for a bakery truck anywhere except in (TURN TO PAGE 108, PLEASE)



YOU NEED *REAL* HORSEPOWER...

● For heavy haulage and highway transportation work you have to have *real horsepower* under the hood. The horsepower shown on some performance curves won't pull a pound of payload if it isn't in the engine.

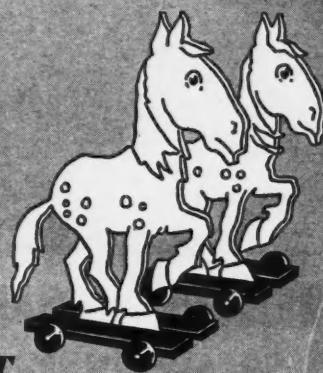
Waukesha Hy-Powr sixes actually deliver 20 to 30 per cent more power—real horsepower—with an equal saving in size and weight—than conventional engines of the same displacement. And the engine runs smoother and fuel consumption is reduced. To prove that they are conservatively rated, each engine bears a name plate that means something—it has the horsepower stamped right on it.

Why the difference? Because these engines have the Hy-Powr combustion chamber . . . a *Waukesha-owned, patented feature* . . . and numerous other exclusive improvements.

Write for Bulletin 888. It gives you the whole story...the way you like to get it.

WAUKESHA MOTOR COMPANY, WAUKESHA, WISCONSIN

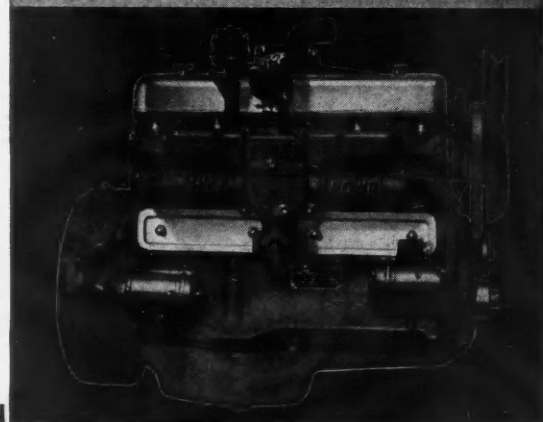
COMMERCIAL CAR JOURNAL
APRIL, 1937



NOT

PAPER HORSEPOWER

WAUKESHA E N G I N E S



(CONTINUED FROM PAGE 106)

the Southwest where there are great areas of sandy desert. In cities that are near mining districts where much is dirty grey and black, a red and yellow truck would be far more outstanding than a dark blue or black one.

From the viewpoint of other drivers, size must be taken into consideration in coloring trucks. Very little can be done to protect the type of person who fails to see large obstacles like truck trailers or moving vans, but much can be done to protect the less accident-susceptible driver by painting large trucks in colors that are as unobtrusive though visible as possible.

For the ordinary truck it would seem wise to paint the bodies in one color with the contrasting color on a wide belt moulding, around the windshield and window reveals and radiator frame. Another way to give a truck high visibility would be to paint the bodies in a dark color and the fenders in a light color, or vice versa.

When the cab of a truck is placed against a background of a large, solid body, the entire body could be in one color and the cab, hood and fenders, as well, in a contrasting color. Another way to achieve visibility would be through using a body color with a very light belt moulding and installing wide bumpers which could be painted in wide diagonal

lines of the two colors used.

However, while all these things may help, it must not be forgotten that the speed element is so great in vision that in many cases no method of painting would be effective as a safety measure. Luckeish and Moss, in "Seeing," state that if a car is traveling at the rate of 50 miles per hour the distance covered during a fixation pause of the eyes of 0.3 second is 22 ft.

THE suggested color schemes have been considered entirely from the viewpoint of visibility during the daytime. Color schemes which take into consideration visibility at night have been discussed by Howard Ketcham, color engineer and consultant to Du Pont. Mr. Ketcham points out that in selecting color for trucks, "It is most important to consider the factor of average headlamp quality, since the color of the truck's rear-end by night depends upon the light reflected by it from the motorist's own headlights. Tests show that the hues most strongly emitted by headlamps and, therefore, capable of the strongest reflection are white and yellow. These units form a marigold yellow.

"What is the case for and against marigold yellow? In its favor is its power to

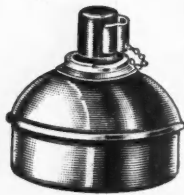


—TO MEET UNCLE SAM'S REQUIREMENTS



DO-RAY Universal Truck Mirror

A true universal mirror. With attachment making possible installation on hinge or cab. Can be extended 21 inches from truck body.



DO-RAY SUPER FLARE

More than meets all specifications of I. C. C. and States. With burner cap which protects flame in rain and provides maximum flame at all times.



DO-RAY Angle Bracket Lamp

Can be mounted in many positions on truck. Heavy steel bracket, black enamel finish.

DO-RAY FOGLITE

A foglite truck-built to stand up under the most severe driving conditions. Special processed Amber lens throws maximum light on roadway.



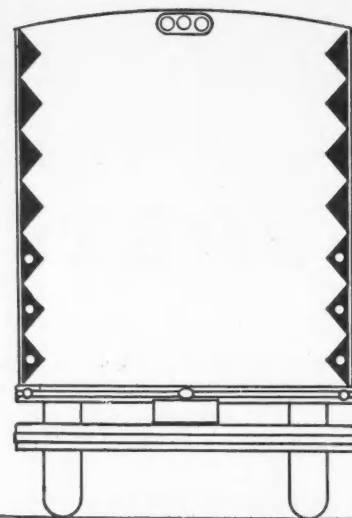
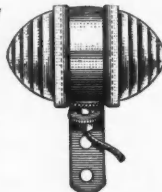
DO-RAY NOBBY

The perfect reflector for trucks, buses, and trailers. Heavy metal frame, black enamel finish, thoroughly protected lens. In red, amber, green, or white.



DO-RAY Two-Way Clearance Lamp

Body and bracket bolted together, making it easy to adjust position of lamp. Heavy gauge metal, black enamel finish.



Mr. Ketcham's suggested rear-end color treatment for trucks to promote highway safety. Principal color is 5-Yellow-8-12. Sawtooth frame provides color frame and line contrast by presenting diagonal instead of horizontal and vertical edges

reflect yellow, the most powerful component of the average headlamp beam and capacity to cut headlight glare by 40 per cent. However, marigold yellow has not the reflecting value of white or true yellow which next to white has the highest reflecting quality. The yellow containing the best qualities of marigold and true yellow is 5-yellow-8-12. This is the color most highly recommended for trucks if the most in visibility at night is desired.

"As for color combinations for rear-end of trucks, the trend toward the use of yellow, often with black stripes painted diagonally in contrast seems well under way. Far-sighted truck owners should encourage this trend."

Write for Reprint of Interstate Commerce Regulations
for Accessories Necessary for Fleet Operation

DO-RAY LAMP COMPANY

1458 S. MICHIGAN AVE.

CHICAGO, ILLINOIS

"THE ONLY GENERATOR

... that eliminates excessive battery and generator costs," says Nighthawk

Nighthawk Freight Service, Inc., operates between Twin Cities, Milwaukee, Chicago, Detroit, St. Louis, Atlanta, Birmingham, New Orleans, Oklahoma City, Kansas City.

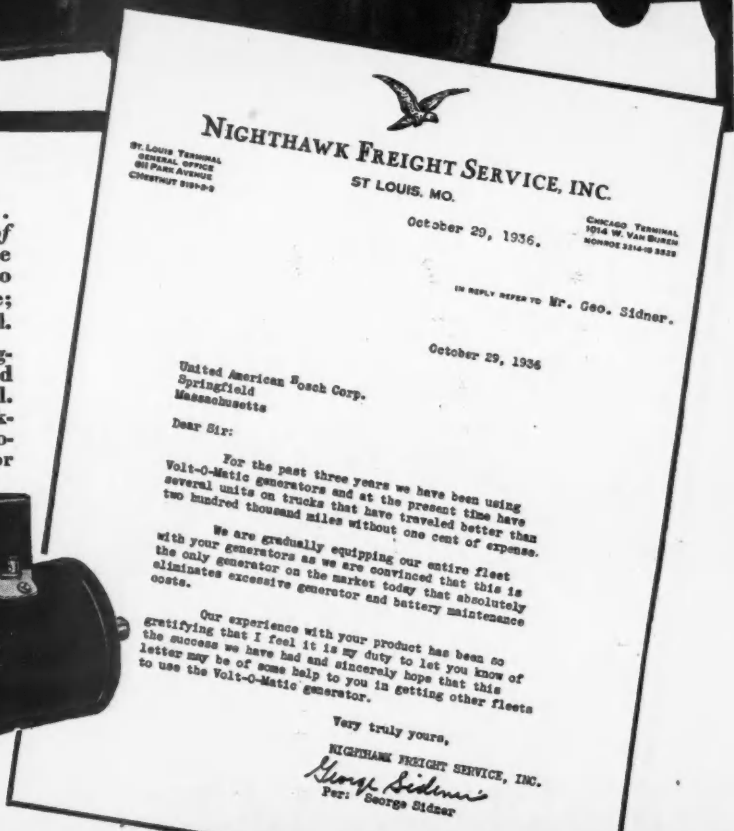
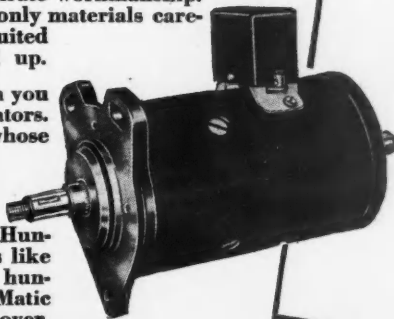


STEADY lights... safer horns... easier starting... longer battery life because there's no danger of overcharging or insufficient charging! These are the proven advantages Volt-O-Matic Generators guarantee to the maintenance superintendent—plus one thing more; namely, maintenance cost at an unbelievably low level.

And just bear this in mind: good automatic voltage regulation must operate with the never-failing precision and the ever ready dependability of a railroad block-signal. For such service ordinary materials and ordinary workmanship are doomed to fail. The job calls for special processes developed through long experience. It calls for close-fits and extremely accurate workmanship. Under such strenuous work only materials carefully selected and specially suited for the purpose will stand up.

You take no chances when you specify Volt-O-Matic Generators. They are built by craftsmen whose skill represents a quarter century of experience in this highly specialized field.

"Proof of the pudding?" Hundreds of enthusiastic reports like this one from Nighthawk; hundreds of thousands of Volt-O-Matic Generators in use the country over.



VOLT-O-MATIC GENERATORS

UNITED AMERICAN BOSCH CORPORATION

SPRINGFIELD, MASS.

NEW YORK

CHICAGO

DETROIT

COMMERCIAL CAR JOURNAL
APRIL, 1937

Uniform Size and Weight Recommendations

(CONTINUED FROM PAGE 73)

law, proceeding at reduced speed.

"(b) Maximum speed. No bus or truck shall be operated at a speed greater than 45 miles per hour. Passenger automobiles may be operated at such speeds as shall be consistent at all times with safety and the proper use of the roads.

"(c) Vehicles equipped with solid rubber or cushion tires shall be operated at a speed not in excess of 10 miles per hour.

(5) Axle Load

"(a) The wheels of all vehicles, including trailers, except those operated at 10 miles per hour or less, shall be equipped with pneumatic tires.

"(b) No wheel equipped with high pressure, pneumatic, solid rubber or cushion tires shall carry a load in excess of 8,000 pounds, or any axle load in excess of 16,000 pounds.

"Research indicates that low-pressure pneumatic tires can carry 9,000 pounds per wheel without increasing pavement slab stresses.

"An axle load shall be defined as the total load on all wheels whose centers may

be included between two parallel transverse vertical planes 40 inches apart.

"(c) These limitations are recommended for all main rural and inter-city roads, but should not be construed as inhibiting heavier axle loads in metropolitan areas if any State desires.

"(d) These weight specifications for wheel and axle loads may be restricted by the State Highway Department for a reasonable period where road subgrades are materially weakened from thawing after deep frost, or from a continued saturated condition of the soil.

(6) Gross Weights

"Subject to the limitation imposed by the recommended axle loads, no vehicle shall be operated whose total gross weight, with load, exceeds that given by the formula $W = c(L + 40)$ where:

"W = total gross weight, with load, in pounds;

c = a coefficient to be determined by the individual States;

L = the distance between the first and last axles of a vehicle or combination of vehicles, in feet.

"A value of 700 is recommended for "c" as the lowest which should be imposed, but this should not be construed as inhibiting greater values.

"NOTE: This gross weight recommendation is particularly applicable to bridges, since axle loads and length limitations are determinative in their practical application."

The foregoing recommendations have been approved by:

The Bureau of Public Roads of the United States Department of Agriculture.

The American Automobile Association.

Automobile Manufacturers Association.

The National Association of Motor Bus Operators.

The National Grange.

American Farm Bureau Federation.

National Industrial Traffic League.

The Highway Group of the Joint Committee of Railroads and Highway Users.

The Advisory Committee of the National Highway Users Conference.

24-Hr. Highway Service for Ford Operators

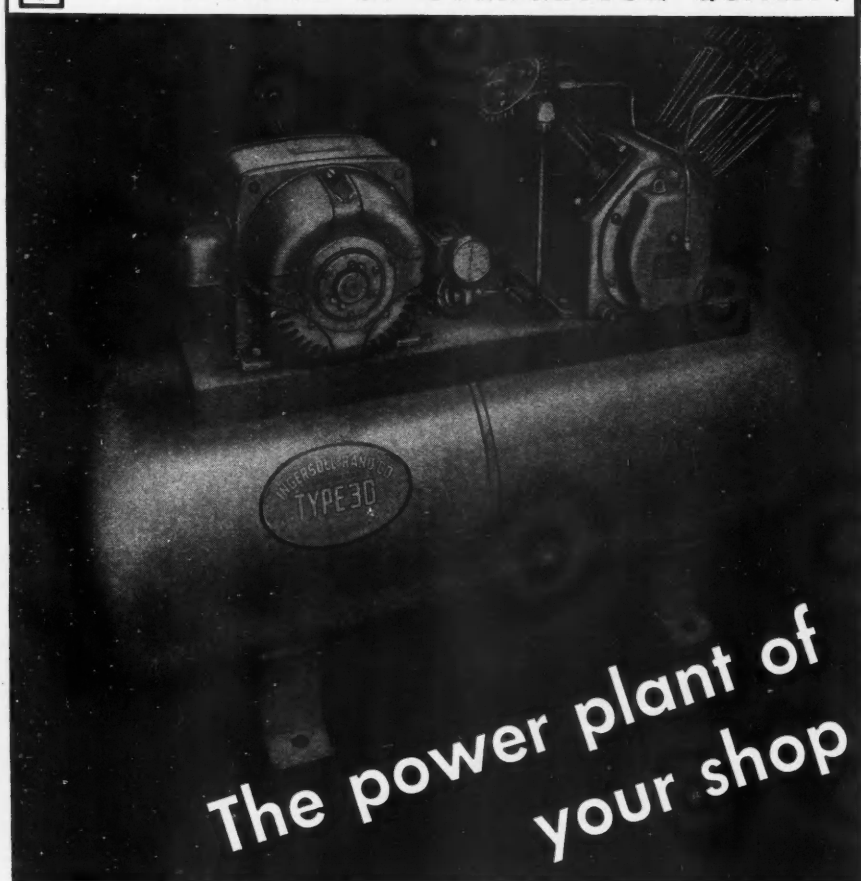
Motor truck freight haulers operating through northern Ohio and eastern Pennsylvania with Ford are recipients of a new Ford service policy. Ford dealers located on principal highways in this area are providing day and night service for haulers. Lists of dealers, with names, addresses and telephone numbers, showing where this day and night service may be obtained, are now being distributed to haulers. Routes covered by the 24-hour service plan are: 20, 2, 6, 3, 4, 23, 224, 30N, 30S, 322, 422, 14, 21, 62 and 36 in northern Ohio and routes 8, 18, 5 and 19 in western Pennsylvania.

ICC Authorizes Purchase by Keeshin

Keeshin Transcontinental Freight Lines, Inc., has been authorized by the Interstate Commerce Commission to enter the New England trucking field through the purchase of Seaboard Freight Lines, Inc.

COMMERCIAL CAR JOURNAL
APRIL, 1937

THE SYMBOL OF COMPRESSOR QUALITY



● When air pressure fails—down go your profits—but when you install an INGERSOLL-RAND Compressor you know you have a machine that never lets you down. Ingersoll-Rand Type 30 two-stage compressors are specially designed for continuous service at 200 lbs. pressure, with high operating

economy, low maintenance cost and trouble-free operation. A fool-proof centrifugal unloader protects the motor. No check valve is required in the discharge line. Available from 1/4 hp. to 15 hp., and everyone backed by sixty years of compressor building experience. Order from your jobber.

Ingersoll-Rand

11 BROADWAY, NEW YORK CITY

366-3

== TRUCKTOR ==

**BRINGS SAFETY THAT
PAYS IN CASH**

**URNS DEAD WEIGHT
INTO DOLLARS**



ALL BECAUSE OF FUNDAMENTAL DIFFERENCES BETWEEN A ONE UNIT 6-WHEEL TRUCK AND A TWO UNIT TRACTOR-TRAILER

THERE are at least two points of difference between a Six-Wheel Truck and a Tractor-Trailer, which may be said to have definite CASH CONSEQUENCES.

1. Relative SAFETY, which, apart from its paramount importance generally, is an actual CASH Consideration.
2. DEAD WEIGHT VS. PAYLOAD, or, strictly speaking, Dead Weight that SHOULD BE PAYLOAD.

It is generally conceded that SAFETY is a vital factor affecting profits in the trucking business.

INSURANCE COMPANIES, WHOSE JUDGMENT ON RISKS IS THE FINAL WORD, SAY THAT OWNERS OF TRACTOR-TRAILERS MUST PAY RATES 25% OR MORE HIGHER THAN ARE CHARGED TO OWNERS OF SIX-WHEEL TRUCKS.

This means that the six-wheel truck is the SAFER vehicle. It means that the owner receives a cash bonus for Safety *before he hauls a single pound of payload.*

FURTHER: A SIX-WHEEL TRUCK TURNS DEAD WEIGHT INTO DOLLARS—SAVES FROM 500 TO 2500 LBS. ON CHASSIS DEAD WEIGHT, AS COMPARED WITH A TRACTOR-TRAILER.

This results from the fact that the Six-Wheel truck is not being burdened with a dead load of parts which the Tractor-Trailer must have—such as weighty upper and lower fifth wheel, landing gear, overlapping frames of tractor and trailer, and the weight of extra length of frame required to afford several feet of clearance between cab and body for turning.

The dollar value of the bonus payload thus earned for the Six-Wheel truck, and which is lost to the Tractor-Trailer, will easily increase earnings up to ten per cent or more, where trucks can load to capacity. For example, assuming the extra payload to be 1500 lbs. at 50¢ per 100, it will return \$7.50 profit per trip. On the basis of 300 trips a year, the sum realized is \$2,250, or enough to absorb 100% of the cost of the six-wheel unit, and make a considerable payment on the cost of the truck.

THESE ARE ONLY A PART OF THE ADDITIONAL EARNINGS AND ECONOMIES MADE POSSIBLE BY THE USE OF TRUCKTOR CREATED SIX-WHEEL TRUCKS. GET THE HARD FACTS ABOUT THESE DIFFERENCES IN EQUIPMENT THAT MEAN DOLLARS TO YOU. ASK US FOR THE WHOLE STORY.

TRUCKTOR DETACHABLE 4-WHEEL CHAIN AND SPROCKET DRIVE, WHICH SUPPLIES ADDITIONAL TRACTION ON SLIPPERY ROADS, IS AN EXCLUSIVE FEATURE OF TRUCKTORED TRUCKS—NOT OBTAINABLE ON TRACTOR-TRAILERS



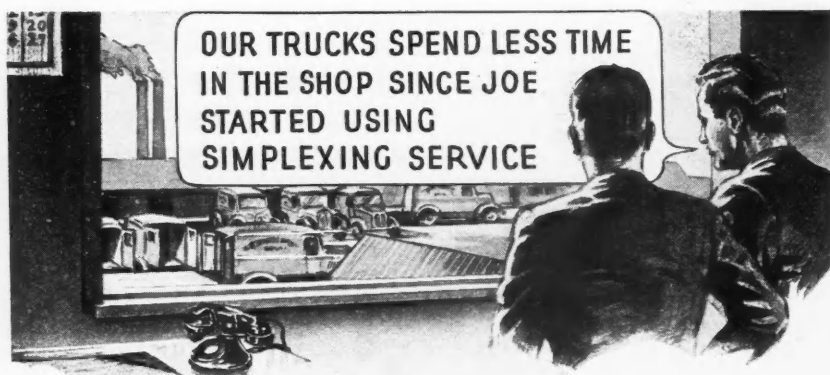
THE TRUCKTOR CORPORATION • 156 WILSON AVE., NEWARK, N. J.

TRUCKTOR DOUBLES THE PAYLOAD

COMMERCIAL CAR JOURNAL
APRIL, 1937

New Truck Registrations by Makes by Months

	Autocar	Brockway	Chevrolet	Diamond T	Dodge	Federal	Ford	G. M. C.	International	Mack	Reo	Sterling	Stewart	Studebaker	White-Indiana	Miscellaneous	Total
January.....1937	130	102	14,362	863	3,764	207	16,544	2820	6,244	389	354	29	92	169	592	948	47,609
January.....1936	75	94	15,124	495	6,207	223	14,606	428	4,743	90	339	8	85	143	493	607	43,760
% Change..1 Mo.	+73	+9	-5	+74	-39	-7	+13	+560	+32	+333	+5	+262	+8	+18	+20	+56	+9



More time on the road - LESS TIME IN THE SHOP

SIMPLEX Distributors in major marketing centers offer a service to fleet repair shops which greatly reduces repair shop, lay-up time. Shops having ring-fitting jobs can simply call the Simplex Distributor as soon as the pistons are out and Simplexing Service will pick up, clean grooves, expertly fit Molium Rings and deliver the pistons all ready to place back into the motor.

This service accompanies the use of the famous Simplex Molium Rings, the special long-lasting bearing metal ring, which stops wear on cylinder walls, stops oil pumping and stops compression loss.



Phone your nearest Simplex Distributor as soon as the pistons are pulled on the next overhaul job and see how quickly the rings will be fitted.



SIMPLEXING
*The Simplex Method
of Motor Conditioning*

New Products On Parade

Royal Rayon Cord

A NEW U. S. Royal Tire which features the use of of rayon cords has been developed by United States Rubber Products, Inc., for high-speed heavy-load truck and bus service.

The new carcass material is said to retain a greater portion of its strength than cotton at the scorching temperatures of



high-speed, heavy-load tire operations. More than one hundred million test miles, a distance equal to 33,300 trips across the United States, were run in developing this rayon cord tire.

Edison Battery

THE Emark Battery Division, Thomas A. Edison, Inc., has announced a new battery that has four extra plates per cell and all of the plates are of the high type to provide greater capacity. The battery cases are of virtually standard height.

The new Endurite separators are used in this battery. The separator material is a special rubber which possesses the porousness of Cedar or Fir separators plus exceptional resistance to wear, it is claimed.

The truck and bus battery line has been revised and a "Highway Transport" medallion is used to distinguish this type of battery with heavy plate construction.

(TURN TO PAGE 114, PLEASE)



On the job . . . when the job is **TOUGH!**

Hard jobs call for equipment that can "take it," with minimum time out for repairs. Borg & Beck clutches fall in that category.

Borg & Beck commercial car clutches are built to weather the toughest going—and that means the worst your particular business can offer.

Specifications set up by hard judges—the truck engineers themselves—are met and exceeded by the new Borg & Beck clutches. The result is a

clutch that is structurally "right," precision built to resist wear, easy and smooth in operation throughout its long life . . . a clutch that stays "on the job when the job is tough."

That is the clutch you get as original equipment when you buy the products of 33 well-known truck and tractor builders. Specify "Borg & Beck" and write clutch maintenance down to a minimum.

BORG & BECK DIVISION

BORG-WARNER CORPORATION

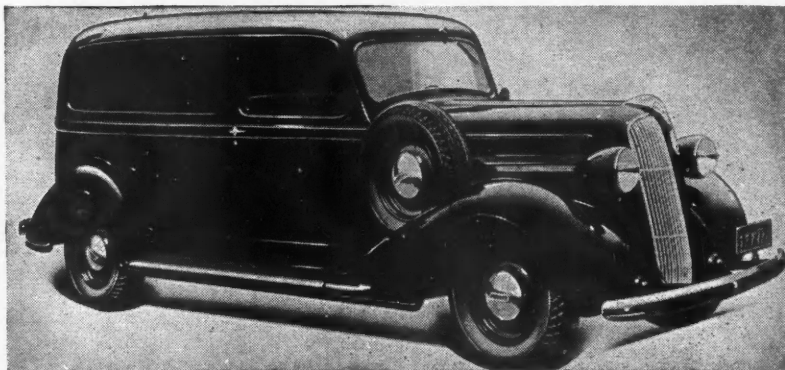
CHICAGO, ILLINOIS

(CONTINUED FROM PAGE 112)

Heavy Service Tires

TRUCK tires designed for heavy service in the mining and construction fields are announced by The B. F. Goodrich Co.

The large tires, known as "earth movers," will carry a maximum of 15,740 lb. a casing, or nearly eight tons. They are mounted on 13-in. rims, weigh 449 lb., and are available in 12, 16 and 20 plys. The tubes weigh more than 53 lb. and the flaps 12 lb., the manufacturer says. The tires may be purchased with two types of tread, one for trailer uses on free moving wheels, and the other incorporating a super-traction tread for use in mud, and soft ground.



Plymouth panel body on 116-in. wheelbase

JOYCE Truck and Bus LIFTS**HELP HIM do a GOOD JOB**

Daily inspections are the fleet owner's only adequate safeguard against costly accidents and delays. And in checking up underbody mechanism, good lifting equipment is indispensable.

JOYCE Truck and Bus Lifts help your Maintenance Department do a good job. Service men swear by JOYCE Lifts because they never have to swear at them.

JOYCE Lifts have demonstrated their ability to help keep down costs. They are so designed that there can be no binding if one end is elevated more than the other. They master completely the



conditions created by unbalanced loads. Built like a bridge throughout.

Load capacities range from 8000 lbs. to 40,000 lbs., either Air or Electric operation.

Proper fleet maintenance is a tremendous job. For it you pick the finest of trained mechanics. It is a practical money-saving proposition for you to give them the finest of lifting equipment. Ask your jobber or write us for detailed information that will enable you to make proper comparison. The Joyce - Cridland Company, Dayton, Ohio.

JOYCE LIFTS

BUILDERS OF LIFTING DEVICES SINCE 1873

ILLUSTRATED above is the new Plymouth panel body job on a special commercial car chassis of 116-in. wheelbase. Specifications are:

L-head, six-cylinder engine with 3½-in. x 4⅞-in. bore and stroke, 201.3 cu. in. piston displacement and 70 brake horsepower at 3000 r.p.m. Maximum torque is 138 ft. lb. at 1200 r.p.m. Compression ratio is 6.7 to 1.

Rear axle is semi-floating hypoid type and gear ratio is 3.73 to 1 standard with 4.1 to 1 and 4.78 to 1 as optional. Lubrication is by forced feed. Transmission has silent helical gears in second. The crankshaft has precision type bearings. There are four rings per piston.

Brake Drum Lathe

NEWEST addition to the line of automotive service equipment manufactured by Van Norman Machine Tool Co., Springfield, Mass., is the No. 202 junior brake drum lathe which takes all passenger car and light truck drums. This machine has two special features: A multiplicity of



feeds in either direction; and a 3-in. hollow spindle that not only rotates but slides in and out. Other features are 105 sq. in. of bronze-back replaceable babbitt bearing surface, cantilever ball bearing feed with automatic stop. Machine weighs 900 lb. and is driven by a ¾ hp. heavy duty motor.

(TURN TO PAGE 116, PLEASE)

new CHEVROLET TRUCKS 1937

and Commercial Cars



NEW UNEQUALED ECONOMY FOR FLEET OWNERS
plus the greatest pulling power in the low-price range

More Load Space and Improved Load Distribution haul more goods at lower cost



Whatever your haulage or delivery requirements may be, there are many reasons why new 1937 Chevrolet trucks or commercial cars will do your job more to your satisfaction than any other units you have ever owned.

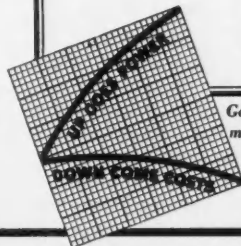
If you need power—the new Chevrolet High-Compression Valve-in-Head Engine supplies it . . . the *greatest pulling power* of any truck in the low-price field! It is economical power, because Chevrolet truck engine design is based upon gasoline and oil saving principles. It is durable, long-life power, because every part and feature of Chevrolet trucks is ruggedly built to withstand hard, continuous service.

Chevrolet trucks and commercial cars bring you *extra savings* with Increased Load Space and Improved Load Distribution. This allows bigger loads per trip and higher earnings per unit. Perfected Hydraulic Brakes are safer, smoother, and far more economical to maintain.

Examine the new lines of Chevrolet trucks and commercial cars. In every feature and detail, including their new and smart Steelstream Styling, they offer new value and new economy to fleet owners.

CHEVROLET MOTOR DIVISION, General Motors Sales Corporation, DETROIT, MICHIGAN

PERFECTED HYDRAULIC BRAKES (with Double-Articulated Brake Shoe Linkage). The smoothest, most efficient, and most dependable brakes ever built • **NEW HIGH-COMPRESSION VALVE-IN-HEAD ENGINE**. Giving even greater pulling power—even greater economy—in an unequalled combination • **MORE LOAD SPACE—IMPROVED LOAD DISTRIBUTION**. Bigger loads per trip—higher earnings per truck • **NEW STEELSTREAM STYLING**. Making Chevrolet trucks for 1937 "the best-looking trucks on the road." • **IMPROVED FULL-FLOATING REAR AXLE WITH NEW ONE-PIECE HOUSING** (on 1½-Ton Models). Super-strong—super-sturdy—built to give many thousands of miles of dependable service.



General Motors Installment Plan—monthly payments to suit your purse.

" MORE POWER per gallon LOWER COST per load ! "

(CONTINUED FROM PAGE 114)

Ful-Ton Truck

THE FUL-TON door-to-door delivery truck is being built by the Ful-Ton Truck Co., Los Angeles and is especially adaptable to dairies, bakeries, laundries, cleaners, etc. Load distribution on the Ful-Ton is 40 per cent on the front axle and 60 per cent on the rear. The motor is mounted at the front with a sliding sub-frame that pulls out easily for servicing. Minor adjustments are made through a hinged panel in the driving compartment.

The wheelbase is 100 in. Available loading space is 191 cu. ft. Truck weight is 3850 lb. and maximum carrying capacity



is 3500 lb. Steering gear is a Ross cam and lever. Rear axle is full floating. Hydraulic brakes are on all wheels and have a lining area of 224 sq. in.

The Waukesha Model F-C four-cylinder engine has a 133-cu. in. displacement.

IT PAYS TO MAKE SURE Brakes and Wheel Alignment are OKAY!



WEAVER

BRAKE and ALIGNMENT Tester instantly shows true condition of car or truck

IT requires less than one minute for the driver of each car or light truck in your fleet to accurately determine the true condition of brakes and wheel alignment. No need for the driver to leave his seat behind the wheel—and he doesn't need a helper or attendant to note the recordings on the Weaver Combination Brake and Alignment Tester.

Driver simply applies brakes as he drives over the floor plates of the Tester. The gauge is visible and legible from the driver's seat. Vertical tubes in the gauge automatically register brake energy in pounds for each of four wheels separately and simultaneously. Also shows whether brakes are properly equalized and wheth-

er total braking energy is sufficient for the weight of the vehicle.

To check wheel alignment, the truck is driven slowly over the floor plates of the Tester. Driver merely has to glance at the indicator dial on side of pedestal of Tester. Pointer shows excessive toe-in or toe-out under actual driving conditions, and indicates the number of feet tires are dragged and scuffed side-ways for each mile of driving.

As soon as truck is driven off the plates the recordings revert to zero, and Tester is ready for the next vehicle.

Model WY-25 Tester . . . \$595.00 (West Coast \$655.00).

Ask your jobber salesman, or write us for details.

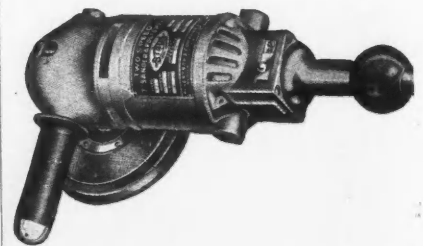
WEAVER MANUFACTURING COMPANY
Chatham, Ontario, Canada SPRINGFIELD, ILL., U. S. A. London, England

Torque is 98 ft. lb. at 1200 r.p.m. Developed horsepower is 35 at 2400 r.p.m. The truck is governed at 30 m.p.h. at 2400 r.p.m. Clutch is a 10-in. single plate. The heavy-duty transmission has synchromesh second and high gears.

Special features are shatter-proof glass, galvanized interior, insulated roof, rubber fenders, etc. Prices have not been announced.

Sioux Sander Polisher

THE new Sioux sander and polisher is a 7-in. two-speed machine known as model 1260. By shifting a gear lever the speed is changed from 3500 r.p.m. for the 7-in. sanding disc to 1300 r.p.m. for polishing. Gear case and armature ball-bearings are permanently oil packed and sealed. The three-conductor electric cord is 25 ft. long. This model is \$64.50.



A heavy-duty sander that will handle a 7-in. disc at 3500 r.p.m. or a 9-in. disc at 2750 r.p.m. is also available. This model 1255 with accessories is \$85. It is of the same design as the model 1260 but is built and geared for extra heavy-duty work.

Pull-Out Mirrors

WHITEHEAD STAMPING CO., Detroit, offers a full line of rear view mirrors known as the Hindview pull-out. The arms of this line measure 14 in. and the pull-out feature allows their extension up to 22 in. or at any intermediate length desired. The standard mirror is 5 in. in diameter. A 6-in. mirror is available as



well as a non-glare mirror for night driving. Another feature is the adjustable angle of the arm which revolves in a ball socket. Brackets are available for easy mounting to door hinge, cab or fender.

Window Regulator

A. L. HANSEN MFG. CO., 5047 Ravenswood Ave., Chicago, offers a new type of balanced lift for window regulation in trucks, buses and cars. The balanced lift consists of coil steel springs and counterbalancing arms. The tension of the two coil springs is constantly equalized giving the same support to the window at all points of travel. This lift is known as model 88 available in six different lengths. The full line of straight-up lifts are also available.

[More Products Page 138]

COMMERCIAL CAR JOURNAL
APRIL, 1937

Washington News Letter

Trailer Census

HOW many trailers—both freight and tourist—are there? Uncle Sam has decided to find out. To this end the Bureau of the Census has started a trailer canvass, the first ever to be undertaken.

Director William L. Austin, of the Bureau of the Census, has sent out by mail to all trailer manufacturers schedules which cover factory sales of house trailers, semi-trailers, full trailers and other types of passenger car trailers for the calendar year 1936. The number will be recorded together with the net wholesale, f.o.b. factory. Value based on the prices charged to dealers, distributors and branch agencies.

Director Austin has asked that manufacturers to communicate with the Census Bureau if they have failed to receive a schedule.

Pettengill Bill

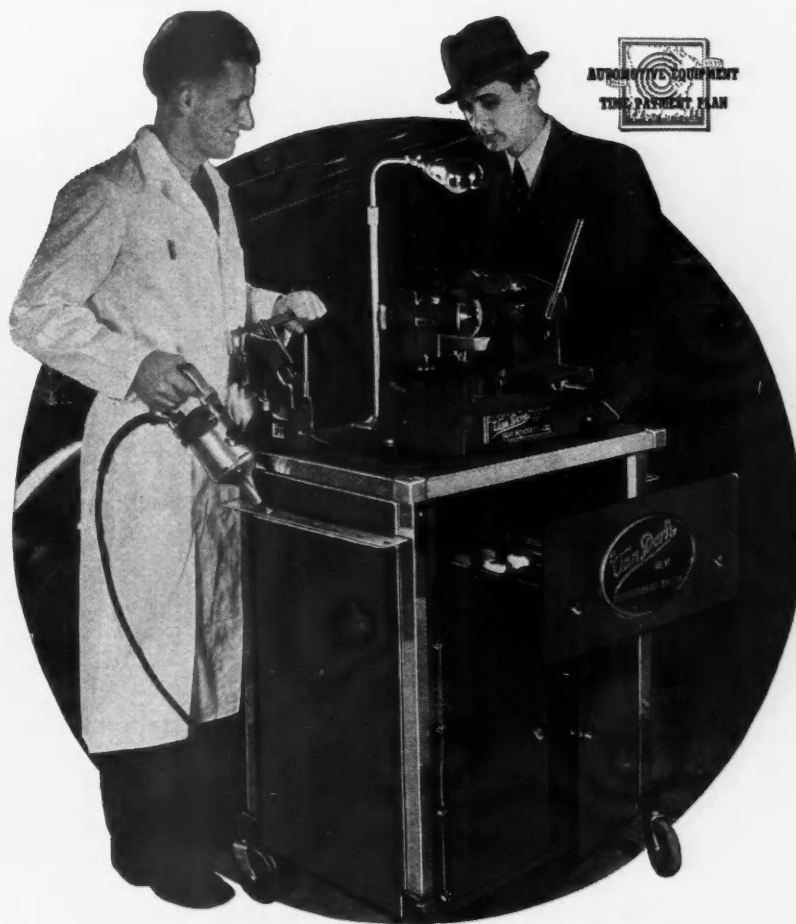
THE best bet is that the Pettengill long-and-short haul bill will not be passed at the present session of Congress. Just as it failed to get by a hostile Senate Committee of Interstate Commerce at the previous session, so it faces the same obstacle now. The peppery Chairman of that Committee, Senator Wheeler of Montana, is said to be all set to see that the bill again does not pass out of the portals of his Committee to the Senate floor. It is likely, however, that the bill will again pass the House, as it did at the previous session, when it went through with a bang—215 to 41. It has just been favorably reported by the House Committee on Interstate and Foreign Commerce under the spur of Representative Pettengill, Democrat of Indiana, and request for a rule to bring it to the House floor has been made of the Committee on Rules. If the Rules Committee acts favorably on the request, it is expected the measure will pass the House by a smaller majority than it previously received at the hands of the House. Trucking interests have strong support in their opposition to the bill, their latest adherent being the Maritime Commission, which has aligned itself with the Interstate Commerce Commission. The Maritime Commission, in a letter to the House Committee, said that any reductions railroads might make in rates would "seriously endanger the earnings of intercoastal steamship lines and hamper this Commission in its efforts to carry out the purpose of the shipping acts."

A minority committee report pointed to Interstate Commerce Commission opposition to the bill as expressed by Commissioner Joseph B. Eastman and warned that its views should not be lightly disregarded. The minority said evidence presented to the Committee does not justify the statement that enactment of the bill into law would greatly increase the number of railway employees. On the other hand, it was

pointed out, the out-of-pocket cost method of taking freight from competing agencies of transportation, whether water carriers or trucks, would throw many truck employes, seamen, inland river and harbor workers out of employment.

"The long-and-short haul clause of Section 4, which this bill seeks to repeal, is one of the most important provisions of the Interstate Commerce Act," the minority report said. "It prohibits and declares unlawful the charging of a higher rate to a lesser distant point than to a farther distant point over the same line or route in the same direction, unless authority to do so is first granted by the Interstate Commerce Commission."

In its opposition to the bill, the American Trucking Association, Inc., told the committee that motor carriers are now regulated, but that no long-and-short haul clause for them is proposed in any pending legislation. Mr. Brashears pointed out that motor carrier rates are frequently higher to intermediate points than to further distant points. Railroads, he said, in meeting competition of motor carriers are sometimes compelled to reduce rates to intermediate points on rail routes, which same points are further distant points on motor routes, or are served by different motor carriers, and this frequently causes unnecessary sacrifices of revenues on the part of both rail and motor lines."—L. W. M.



New Model / New Features

HERE'S the new model of the famous Van Dorn Valve Reconditioning System which rolls right up to the car with all the latest equipment for fast, accurate valve-reconditioning. The big drawer at the top of the cabinet makes it easy to see and reach all the Vibro-Centric valve seat grinding stones, self-centering pilots and carbon-cleaning accessories; a hasp is provided so they can be locked up safely when not in use. The roomy lower

storage bin, fully enclosed by doors in the front, has a hook for hanging the Vibro-Centric Driving Unit and plenty of space for storing other tools and equipment. A new adjustable lamp throws abundant light on the speedy, accurate Valve Refacer. Four built-in electric outlets are provided for lamps, tools, etc. See this new complete outfit at your jobber's—or write for details. The Van Dorn Electric Tool Co., 732 Joppa Road, Towson, Maryland. (Div. of The Black & Decker Mfg. Co.)

NEW **"Van Dorn"**
VALVE RECONDITIONING SYSTEM



For Better

TRUCK AND BUS SERVICE

The New AC BLUE TOP SPARK PLUGS

Follow the guidance of THE NEW 1937 AC HEAT RANGE CHART

*to fit the operating conditions
of individual engines.*

AC Spark Plug Heat Range	Motor Vehicle		Tractor		Aircraft		Automotive		Industrial		Marine	
	Model	Year	Model	Year	Model	Year	Model	Year	Model	Year	Model	Year
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

*To remedy chronic sooting—refer to the Heat Range Chart for the AC plug type with the number next **higher** than the one now in use.*

*To remedy pre-ignition, blow-by, or rapid electrode wear—refer to the chart for the number next **lower** than the one now in use.*

THE NEW Blue Top line of AC Quality Spark Plugs covers all heavy duty needs. This new line combines all of the features which made AC Heat Range, Long Life, Universal and Tractor plugs such outstanding examples of spark plug reliability.

Yet the Blue Top line is more than just a consolidation of construction features. In it also are many important improvements—even the newest of which has stood the test of two years.

As a result, Blue Top plugs assure longer life, higher efficiency, greater dependability, and improved gasoline economy. They give complete heat range coverage. And their performance surpasses the best that AC plugs have previously displayed.

Available now for replacement, AC Blue Tops are also approved for equipment.

Blue Tops set a new standard in spark plugs. Get Blue Tops—for better satisfaction.



Keep plugs in top condition with THE AC SPARK PLUG CLEANER

Designed and built by AC this machine cleans plugs *thoroughly* in 5 to 10 seconds. A precision-built shop tool which pays for itself in a short time.

AC SPARK PLUG DIVISION
General Motors Corporation
FLINT, MICHIGAN



Duplate

*The Safety Glass that was
Fifty Years in the Making*



FOR more than fifty years, the Pittsburgh Plate Glass Company has been making quality glass. The knowledge and experience we have accumulated during that period are second to none in the industry. And everything we have learned, every improvement we have achieved in glass making and glass quality is reflected in the excellence of Duplate Safety Glass today. That's why Duplate is a name that is synonymous with high quality in

safety glass. And that is why we say that Duplate has been fifty years in the making.

When you order new equipment, make sure that it is provided with this quality safety glass in all window openings. And when glass replacement is necessary, call your nearest Duplate dealer, listed in the "Where to Buy It" section of your telephone book. Then you'll know you are getting a safety glass with fifty years experience behind it. Write us for complete information on Duplate, and on Duolite, the Safety Pennvernon Glass which we recommend when Duplate's perfect visual qualities must be sacrificed in favor of price. Address Pittsburgh Plate Glass Company, Pittsburgh, Pa.

Duplate Safety

Paint • PITTSBURGH • *Glass*
PLATE GLASS COMPANY

ANY SHOP THAT NEEDS A VALVE SEAT GRINDER NEEDS THE *ECCENTRIC*

Service equipment today must be on a par with production equipment in its ability to produce the finest precision and finish in minimum time with maximum economy. . . That's why ANY shop that needs a Valve Seat Grinder needs this factory-approved and factory-adopted Grinder.

40
FACTORIES
Have Found
No Substi-
tute for
ECCENTRIC
Grinding

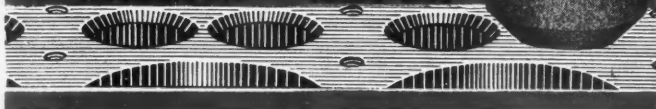
AT YOUR
JOBBER'S

See this Model S-J ECCENTRIC complete with Diamond Dresser in Metal Case at your Jobber's or let him arrange a demonstration in your own shop. Or, write factory for complete information today.

HALL EQUIPMENT IS EASY TO OWN

Buy the HALL Equipment you need right now on terms of approximately 10% down with from 12 to 24 months on the balance with low financing cost.

THE HALL MANUFACTURING CO.
1410 WOODMAN AVE. TOLEDO, OHIO



HALL PISTON PIN HOLE HONES



Made
in 2 Ranges
3 TOOL SET \$24

Why tie up a lot of money in Pin Hole equipment when \$24 buys a set of 3 Pin Hones complete with Foot Switch, Drill Support and extra Abrasives in a range of .484" to .750" or .740" to 1.150"?

NEWS

IHC Reports Huge Increase in Motor Truck Sales

Substantial improvement in the business of the International Harvester Company during 1936 as compared with 1935 is shown by the annual report. Noting that the Company's fiscal year has been changed so as to end on October 31 instead of December 31, the report states that net profits for 1936 were \$29,760,000 as against \$19,618,238.03 for 1935.

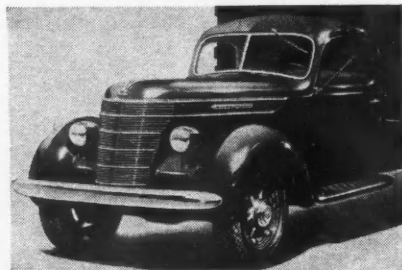
Total proceeds from sales during the fiscal period ended October 31 were \$254,934,000, or 17 per cent more than for 1935, and 24 per cent less than for the peak year 1929.

Contrasting sales proceeds in the United States during the limited fiscal period of 1936 with the year 1935, the report shows that tractor volume increased from \$51,293,000 to \$63,235,000; farm implements increased from \$50,062,000 to \$53,195,000; motor trucks increased from \$48,291,000 to \$61,305,000 and steel, binder twine, etc., decreased from \$19,082,000 to \$18,417,000. Total sales in the United States increased from \$168,728,000 to \$196,152,000. The grand total of all sales proceeds increased from \$217,583,000 to \$254,934,000.

To show the changing nature and trend of the company's business, the report compares sales of different lines of products in the United States in 1910 and 1936. In that period farm implement sales increased from \$41,249,000 to \$53,195,000; tractors increased from \$5,641,000 to \$63,235,000; motor truck sales increased from \$1,916,000 to \$61,305,000.

New IHC Line Will Be Described Here in May

The new line of International Harvester trucks will be completely described in the May issue of COMMERCIAL CAR JOURNAL. A thorough description is now being prepared. The "D" line of trucks for 1937 ranges in size from light delivery to heavy six-wheeler units and includes conventional four-wheelers, six-wheelers with both dual-drive and trailing axles and cab-over-engine models. The complete line has 26 models in 77 wheelbases with gross weights ranging from 4400 lb. to 62,000 lb.



In addition to numerous mechanical and structural features, the entire line is marked by a new and striking front-end design.



David Blanchard, who has been made vice-president in charge of sales for the Magnus Chemical Co., Inc., Garwood, N. J. He was formerly in charge of the Portland, Me., office



C. W. Pearsall has been made manager of all automotive distributor sales for the Ahlberg Bearing Co., Chicago. J. J. Steinmetz has been made Chicago branch manager for the company



Joseph Kuttler, who will be in charge of production and sales of the Pacific coast factory branch of the Trailer Co. of America being established at Oakland, Cal., to facilitate handling increased sales

[For Additional News Turn to Page 182]



SUPERIOR

ALL THAT THE NAME IMPLIES

ATTENTION! Truck Distributors

Superior Trailers will make profits for you. We have the protected distributor plan. No factory competition. We offer a national finance plan through C. I. T. A few protected territories are available. Write to
Superior Trailer Manufacturing Corporation
Indianapolis, Indiana

Fleet Owners and truck operators are confidently selecting SUPERIOR TRAILERS for every hauling need. Engineered for pay load economy, SUPERIOR TRAILERS combine:

Streamlined Bodies

Pressed Steel All Electric Welded Frame

Extra Heavy 4" Springs

4 1/2" Tubular Axles

Larger Fifth Wheel

Helper Springs

Timken Bearings

Bendix Brakes

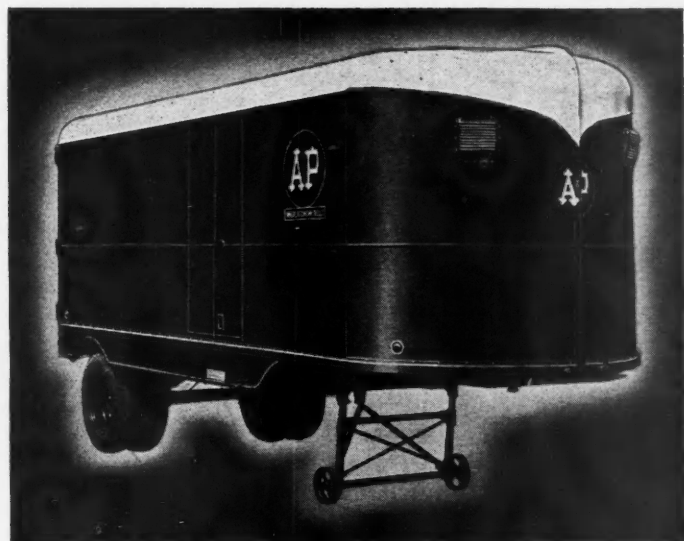
to give you the most serviceable, easy pulling trailer you can buy.

Built to all standard models or to your specifications. It will pay you to look at a SUPERIOR TRAILER first. For further information, write to

SUPERIOR

TRAILER MANUFACTURING CORP.

Indianapolis, Indiana



New Products On Parade

(CONTINUED FROM PAGE 116)

Neon Signal

YALE AND TOWNE MFG. CO., Detroit Division, has a new directional signal which has a flashing neon tube arrow. A buzzer within the cab acts as warning that the switch is turned on. The Switch is a finger type switch which mounts just below the steering wheel. All high tension wires are completely inclosed. The light is oval in design.

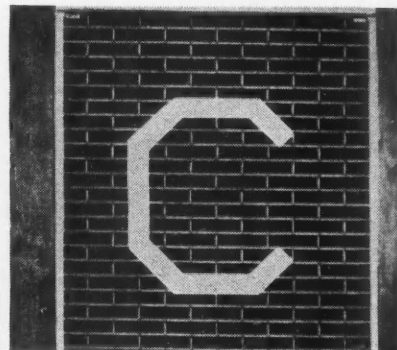
Galvanized Paintgrip

COMMERCIAL production of a new kind of galvanized sheet that assures a good paint bond on iron and steel products has been announced by The American Rolling Mill Co., Middletown, Ohio. This new kind of galvanized sheet metal can be painted without special treatment of the surface by the user.

Armco paintgrip sheets are chemically treated to produce a finely crystalline phosphate coating which in itself is neutral to paint (being neither acid nor alkaline) and keeps the paint from direct contact with the zinc surface. This coating is an integral part of the sheet.

Grille Monogram

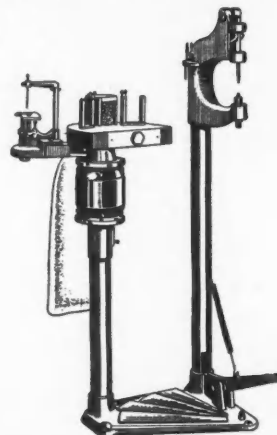
CORNELL IRON WORKS, INC., 36-20 36th St., Long Island City, N. Y., now incorporate a monogram on the rolling grilles which coil overhead around a horizontal pipe shaft containing counter-balancing



springs. The initials, street numbers, trade marks, etc., can be made to suit any reasonably simple design submitted by the customer and can be made to coil and uncoil with the rolling grille.

Brake Reliner

THE "Ace" brake reliner has been designed for heavy bus and truck brake relining. The riveter is toggle type and has a deep throat, together with sufficient clearance for handling small diameter bands. The anvil is adjustable and the unit is complete with a built-in tool rack.



Other features include grinder with 3½-in. abrasive, machined grinding table, adjustable grinding guides and large dust bag. Drilling spindle is ball-bearing mounted. Depth of counter-sinking is controlled by an adjustable stop. The unit is priced at \$77.50. Chicago Rivet and Machine Co., 1830 S. 54th Ave., Cicero, P. O., Chicago, Ill.

Enduro Booklets

A SERIES of five booklets on Enduro stainless steel has been issued by the Republic Steel Corp., Cleveland. The first booklet illustrates the applications of Enduro. The second features data on Enduro 18-8. The third discusses the straight chromium types of Enduro. The fourth treats of the heat resisting type. The fifth treats of Enduro chromium steels.

(TURN TO PAGE 140, PLEASE)

COMMERCIAL CAR JOURNAL
APRIL, 1937



GENUINE MOULDED BRAKE BLOCKS

100% EFFICIENT

— even when worn to wafer thinness

Maximum braking and ease of operation.

Not affected by operating temperatures or weather conditions.

Long life — positive, smooth stops.

Unaffected by oil, water or grease.

FLEETS 100% GATKE EQUIPPED ARE ASSURED OF MAXIMUM SAFETY—ECONOMY AND EFFICIENCY

There is a Gatke Brake Block or Lining, moulded or woven, for every job. Furnished in blocks, rolls, radius slab units and sets.



Heavy Duty Woven (Semi-Moulded) Ideal for extra high holding power — durable and kind to drums.



Available in all Sizes and Styles

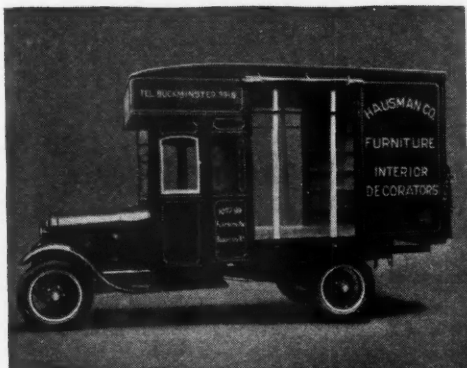
Ask Your  Jobber or Write for Brake Service Manual, material recommendations and complete information regarding your requirements.

GATKE CORPORATION

General Offices — Automotive Division
228 No. La Salle Street Chicago, Illinois

PLYMETL

doesn't retire



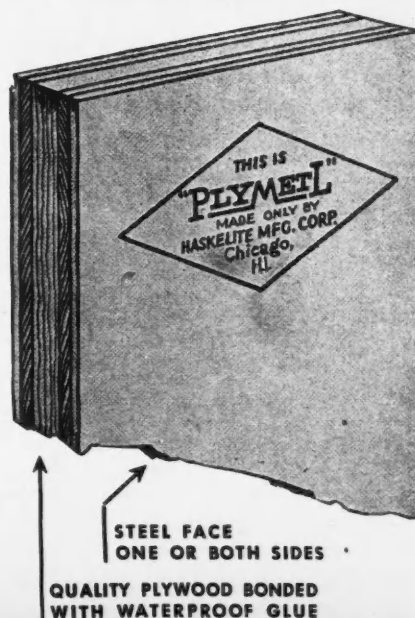
PLYMETL PANELED BODIES MEAN *Better* BODIES

Is it not singular in a world of changing materials that Plymetl is still the "standard" for quality body-building material after nearly a score of years?

Yes, singular, but wholly understandable. Plymetl was specified in both the "old freighter" and the sleek, modern trailer pictured above, for the same reason—because weight for weight it has always been the lightest and strongest panel available; because its smooth metal surface finishes easily and reflects no distorting highlights; because it will outlive the life of its hauling unit with a minimum of upkeep and without burdening the power plant with dead weight. Plymetl panels are often reused on more than one commercial body.

Did you know that $\frac{1}{4}$ " VE Plymetl (single steel face one side) weighs but 1.4 lbs. per square foot?

WRITE TO US FOR STOCK SIZES AND PRICES



OFFICES IN CHICAGO • DETROIT • NEW YORK

HASKELITE MANUFACTURING CORPORATION

208 WEST WASHINGTON STREET • CHICAGO, ILLINOIS

(CONTINUED FROM PAGE 138)

Hall Ridge Reamer

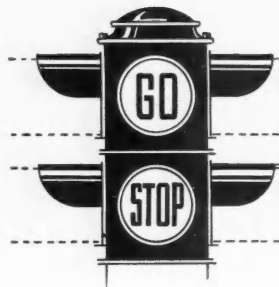
THE Hall Mfg. Co. has designed entirely new type of Ridge Reamer in which the cutter is located behind and on a direct line with one of the three centering rollers. This location of the cutter makes it impossible for the operator to tip the Reamer and gouge the cylinder wall and prevents cuttings dropping on to a roller and becoming embedded in the cylinder wall. The Reamer automatically feeds to the top of the cylinder. Adjustment is easy through Vees in spider collar and top of reamer body. A locking screw keeps setting positive and prevents cutter becoming loosened and setting changed through vi-

bration. This No. 215 ridge reamer handles a range of 2,600 in. to 4 in. It comes with driver in metal box at \$12.50.

Hydraulic Brake Bleeder

THE Solo Automotive Mfg. Co., Inc., New York City, has a brake bleeder for hydraulic brakes which makes it possible for one man to bleed the brakes at all four wheels at a single operation. The equipment is chiefly an adapter with a ball check valve incorporated into the design which permits easy escape of the brake fluid but makes it impossible for air to get back into the system. The valve ball seats on an inverted cone which prevents accumulation of foreign matter.

WARFORDS

**WITH 8 WHEELS****WITH 10 WHEELS**

With Warford Ten-Wheelers you get live, ready-to-go, eight-wheel traction, and sure, dependable, ten-wheel braking on any road surface. This means smooth adaptability and the positive ability to handle load capacity under all conditions.

The Warford Super-Auxiliary Transmission gives you extra gear ratios which keep ten-ton loads well within the working limits of the Ford V-8 engine.

Ask your Ford dealer or nearest Warford distributor to show you how you can get superior performance and economy of operation with Warford Multi-Wheelers, or write us for details.



Three Long Wheelbase WARFORDS with 1100 Gallon Asphalt Distributors

THE WARFORD CORPORATION

44 Whitehall Street,

New York, N. Y.

Maintenance Manual

A REPAIR manual covering all phases of Ford V-8 maintenance on models from 1932 to 1936 inclusive is announced by the National Automotive Parts Association.

The Ford manual, second of a series, is made available to mechanics and repair shops through NAPA jobbers. The first book issued was a Chevrolet manual.



Following the plan of the first, the new 48-page book contains nine complete sections, devoted to Engine, Ignition and Electrical Systems, Carburetor and Fuel Pumps, Clutch, Transmission, Universal Joints and Propeller Shaft, Rear Axle, Front Axle and Steering Gear, and Brakes. Eighty diagrams illustrate the text.

Goodrich Batteries

TWO light truck batteries and seven heavy duty truck and bus batteries incorporate the Kathanode type construction, it is announced by The B. F. Goodrich Company, Akron, Ohio.

The Kathanode construction for truck and bus batteries uses flexible, porous, spun glass retainer mats to hold the active material in the positive plates for a longer period than is possible with the usual construction, thus giving longer battery life. Use of the retainer mats also reduces internal resistance and improves the battery's starting ability.

In addition to the Kathanode batteries, the new Goodrich truck and bus battery line has a product for all types and models of trucks, buses, tractors, hearses and taxicabs.

Bode-Finn Body

BODE-FINN, INC., Cincinnati, proudly flashes this ice cream body of 450 gal. capacity. It is refrigerated with Kold Hold and Kelvinator compressor. Kold Hold units are mounted inside the body and the



compressor is at the rear. The body is insulated with 6 in. of cork in the floor, 6 in. of Dry-Zero in sides and ends and 8 in. in roof. Both seal pad and blanket form of insulation are used. Chassis is a model C-300 International with 99-in. wheelbase.

(TURN TO PAGE 142, PLEASE)

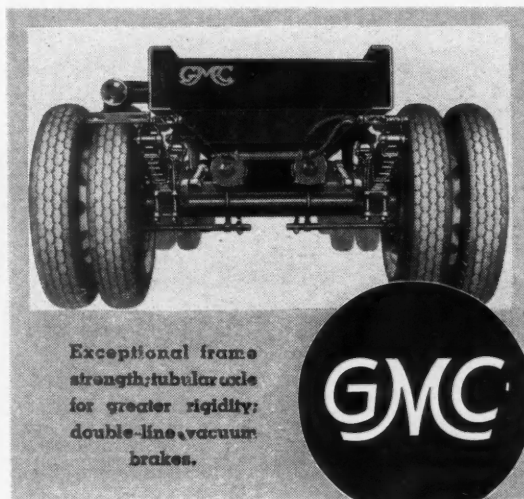
Matched FOR THE JOB



... for more profitable TRACTOR-TRAILER OPERATION

You can buy a GMC trailer or a GMC truck-tractor with complete assurance of exceptional performance and economy. And when you buy both the trailer and the truck from the same reliable source, you safeguard still more your investment in transportation equipment. Both trailer and truck are "truck-built" to match each other. Body width matches clearance space behind cab, wheels are interchangeable, the same wearing parts are used, materials are of the same high grade and are submitted to the same rigid tests and manufacturing standards. Designed and built as a unit . . . sold and financed as a unit with no division of responsibility . . . Balanced design and construction throughout . . . Serviced at the same efficient, reliable source . . . Both GMC trucks and GMC trailers priced extremely low on any basis of comparison . . . Definite assurance of more profitable tractor-trailer operation.

GENERAL MOTORS TRUCK & COACH
DIVISION OF
YELLOW TRUCK & COACH MANUFACTURING COMPANY, PONTIAC, MICH.



Exceptional frame
strength; tubular axle
for greater rigidity;
double-line vacuum
brakes.

GMC TRUCKS and GMC TRAILERS

COMMERCIAL CAR JOURNAL
APRIL, 1937

(CONTINUED FROM PAGE 140)

Nosqueek Spring Bearings

IF Nosqueek spring leaf bearings are installed in springs the springs will not squeak again according to the Certified Auto Products, Inc., Middleburg, Va. The Nosqueek is a series of grease reservoirs so staggered that a dry spot on a bearing is impossible. It is claimed that this device improves the ride.

Brake Safety Device

THE Bird Safety Device made by the Bird Safety Brakes, Inc., P. O. Box 451, Scranton, Pa., consists of spring loaded air

cylinders so connected to the brake shoes that in case of a failure of the air supply the brakes become automatically applied. A hand lever releases the brakes and can be used as a service brake until the air system is repaired.

Brake Fluid

THE R. M. Hollingshead Corp., Camden, N. J., and Toronto, Canada, have been awarded U. S. Patent No. 1,779,460 on the New Whiz No. 3 Non-Evaporating hydraulic brake fluid.

The manufacturer claims this fluid does not contain alcohol or any other evaporating or vaporizing agent. It insures braking

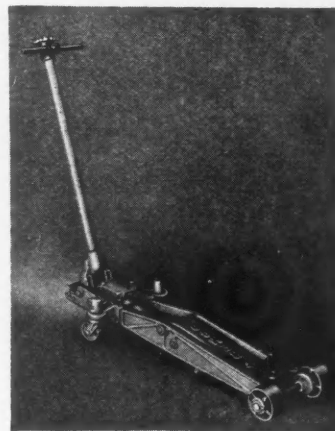
efficiency from 250° above to 50° below zero and will not corrode metal or rot rubber. It blends with other brake fluids. One grade services all motor vehicles, lifts, jacks, etc., it is claimed. Furnished in pint, quart, gallon and 5-gallon sizes.

Imperial Fitting Gage

A NEW fitting gage has been introduced by The Imperial Brass Mfg. Co., Chicago, Ill. This gage makes it possible to determine the size of any standard type copper tube fitting. It can be used for such diversified fittings as compression, SAE flare, hi-duty, inverted flare, pipe size and type "D." The gage is arranged so that outside diameters are measured in a moment by means of holes of graduated sizes and inside diameters by means of plugs. Not only can the sizes of standard fittings be checked by reference to the proper row on the gage, but also outside diameters of all standard sizes of copper, brass, aluminum and steel tubing.

Remco Hydraulic Jack

THIS Remco Hydraulic Jack services all cars. It has hydraulic positioning feature. Load may be lowered as fast, or as slow, as desired; speed controlled by wheel at top of handle. Long handle. Low frame. Lifting saddle starts at 3 3/8 in. and goes up to 24 in., a total lifting range of 20 1/2



in. It is leak-proof with one piece construction of cylinder and oil box. Safety cut-out valve prevents overloading. Ample floor clearance, yet low enough to go under the lowest axle, with both tires flat. Two types, garage and curb, are available. Made by Manley Products Corp., York, Pa.

Schrader's Catalog

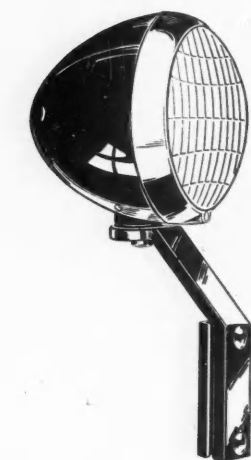
A. SCHRADER'S SON, Division of Scovill Mfg. Co., Inc., Brooklyn, N. Y., has available a catalog of its complete line of tire valve insides, air gages, air chucks and tools. The various items are illustrated and the prices are given. The catalog is available by writing to the company.

Ford and Chevrolet Fenders

THE Fostoria Pressed Steel Corp., Fostoria, Ohio, has available replacement fenders for 1936 models of both Ford and Chevrolet cars.

(TURN TO PAGE 144, PLEASE)

COMMERCIAL CAR JOURNAL
APRIL, 1937

**ARROW SAFETY RIDES OUT THE FOG**

Blinding fog will never halt vehicles equipped with Arrow Fog Lamps. That's because Arrow lamps are not just gadgets.

BUILT FOR SERVICE

When you examine the Arrow Fog Lamp you'll find Arrow Safety—the safety of your rolling stock—built into it. It's there in the rugged, heavy gauged metal used for shell and clamps, in the hardware and cables. For Arrow Safety demands unfailing dependability and long service.

ARROW'S COMPLETE LINE

The Arrow Directional Signal line is complete and legally approved. It includes one-way, two-way, flush, right-left, and combination types.

Other Arrow products include Marker Lights, Flares, Highway Signals

*Ask
your
jobber*

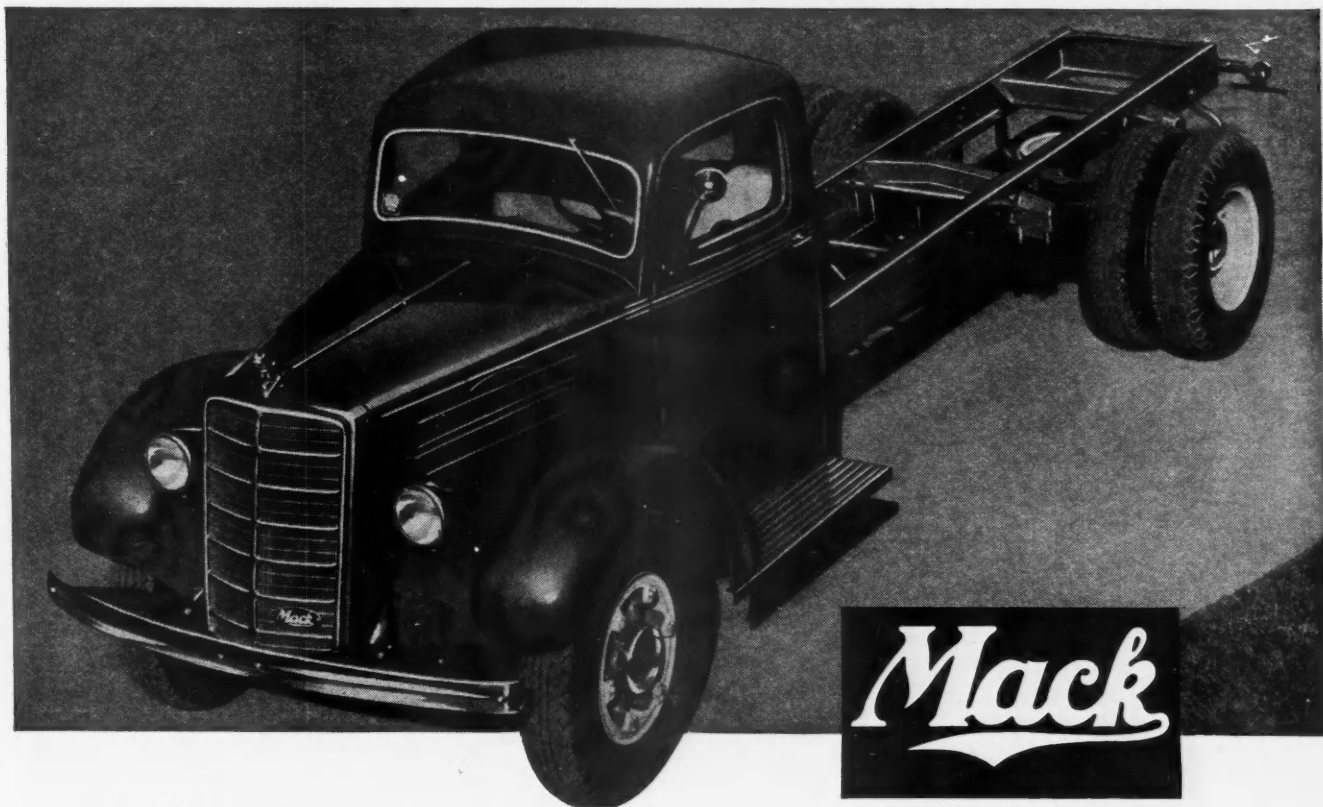


ARROW SAFETY DEVICE CO., INC.

MEDFORD, NEW JERSEY

A GREAT NEW MACK

at a price lower than ever before!



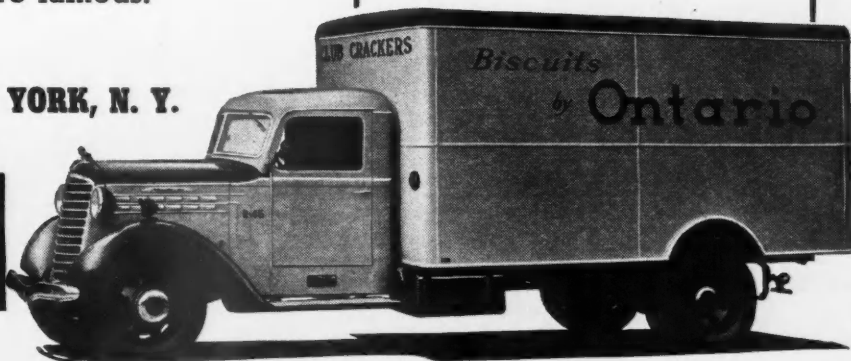
THOUSANDS of haulers in the lighter range have always wanted to own a real, quality-built Mack.

Now—with the introduction of the new Mack Model EJ, they, too, can enjoy the advantages of Mack profit-building economy.

In every detail this new Mack is built to rigid Mack standards of quality . . . to do its hauling job with all the economy and reliability for which Macks are famous.

MACK TRUCKS, INC., NEW YORK, N. Y.

Mack Jr



In the low-price field, Mack last year introduced a new standard of value to truck buyers—the sturdy, reliable Mack Jr.

Prices for Mack Jr start at \$575 at factory for a complete chassis, cab and body—ready to drive!

Before you buy any truck at any price—see the complete Mack line!

(CONTINUED FROM PAGE 142)

Hypoid Lubricant

A NEW product, named Veedol hypoid gear lubricant, is a result of intensive study and testing by Tide Water Associated Oil Co. The new Veedol lubricant is of great strength to provide a protective film at all times despite the extreme pressures created by the hypoid type of gearing. It is made in one grade only and has a SAE number of 90. It is intended only for use in hypoid gears.

Link Scale

THE Link Engineering and Mfg. Co., 1054 West Baltimore Ave., Detroit, Mich., has

a spring scale calibrated in ¼-lb. units up to 50 lb. and another scale calibrated in 1-lb. units up to 250 lb. There is no lateral movement of the platform, the dials are easy to read and when the scale is overloaded the weighing unit is relieved of further load.

Meter Catalog

OPERATORS of trucking equipment utilized in the distribution of petroleum products will be interested in a new meter bulletin issued by Ralph N. Brodie Co., Inc. The time-saving, stock-saving effect of metered distribution is clearly explained and illustrated. Views of various

truck meter sizes and types are an aid to a quick understanding of such equipment. Copies may be obtained by writing the company, 970 61st Street, Oakland, Cal.

Acheson Bulletins

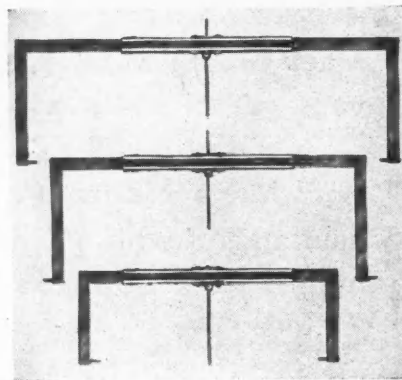
THE Acheson Colloids Co., Port Huron, Mich., have released two new bulletins Nos. A260 and B260. One bulletin covers the theoretical phase of impregnating oil with graphite and the other treats the subject from a practical standpoint. The company will be glad to send these bulletins to interested persons free of charge.



This coupe with a pick-up box, designed for light delivery work, has just been announced by Ford. It is available with either the 85-hp. or the 60 hp. engine. The pick-up box provides a load space 64 in. long, 33 in. wide and 12 in. deep. The side and tailgate are of steel. The floor is of wood, protected by steel skid-strips. The tailgate is fitted with drop chains and provides additional space when lowered.

Centering Gages

THE new Bear automatic centering gages provide a reliable means for locating the correct center line of a bent or twisted car frame. The individual gages are attached to the frame at its fore, center and rear points for making checks. In these positions any misalignment can be readily detected. Each unit is self-centering, adjustable for width and has adjustable pins on upright arms so gage can be hooked



onto frame either inside or outside. As each gage is attached to frame it automatically centers itself. This feature makes these gages simple and easy to use. The adjustable pointer of the self-centering device can be moved either up or down as required. For further details, write Bear Mfg. Co., Rock Island, Ill.

(TURN TO PAGE 146, PLEASE)

More **HAULS**

Less **OVERHAULS**

with **FULLER**

TRANSMISSIONS

MODELS 5A43 and 5A430—

A quality unit for heavy duty trucks and tractors. Five speeds forward and two reverse. Option of overdrive or direct on fifth. Three quiet driving speeds.

FULLER Transmissions reduce maintenance cost . . . lessen unprofitable "time out" periods. **FULLER** Transmissions are built compact, simple, extra sturdy. They stand up in hard service . . . ease the strain on the motor, and cut gas and oil bills by providing a speed for every load and road. Specify **FULLER** Transmissions . . . and assure yourself more hauls . . . with less overhauls.

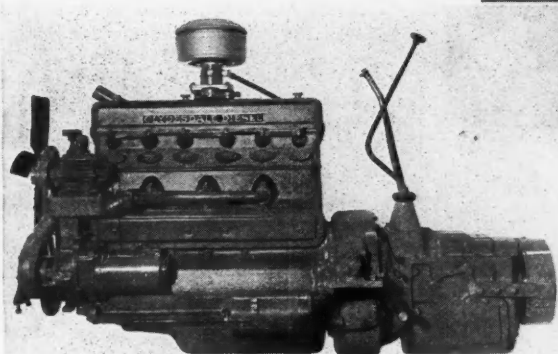
FULLER MFG. COMPANY
KALAMAZOO, MICHIGAN



CLYDESDALE

DIESEL ENGINE MOTOR TRUCKS

Below—Glow plug side of Clydesdale Diesel Engine showing an 84 horsepower full Diesel engine with vacuum pump installed, also special five speed transmission assembly with large diameter band brake with 5/16" lining operating on a cast iron drum.



Above—A short coupled half cab-over-engine tractor in the 18,000 lb. gross range. Offering a short wheelbase without the added expense of full cab-over-engine, yet offering full engine accessibility for service.

"CLYDESDALES

are Not conventional trucks with Diesel motors added --- they are Designed and Built as Diesel Trucks Throughout - - -"

Four years of specialization on Diesels exclusively—three years of field service all over the world—in competition with the best Europe offers—are further proof that DIESEL ENGINES in motor trucks can be successful only when the chassis as a whole is designed and built exclusively for Diesel Power.

The new series of Clydesdale Diesel Engine Trucks includes models from 1½ to 15 tons capacity. Offered in the conventional type—two wheel rear drive, cab-over-engine, half cab-over-engine, six wheel four wheel rear drive, four wheel four wheel drive and six wheel six wheel drive.

We invite fleet operators to investigate the profit making possibilities of our line, which today is setting new standards of performance and sales in the truck transportation field. Territories are now being allocated to responsible and aggressive sales organizations. Write for detailed literature.

CLYDESDALE MOTOR TRUCK COMPANY

Factory: Clyde, Ohio, U.S.A.

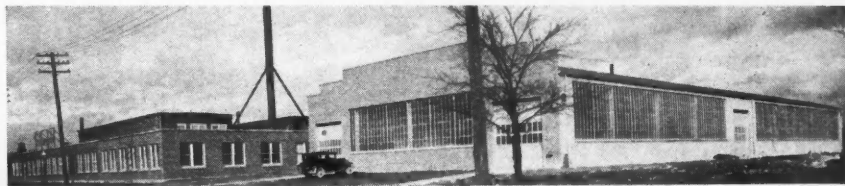
Cable Address: Clydesdale

"All Sizes and Capacities... Special Trucks for Every Purpose"

(CONTINUED FROM PAGE 144)

Manley Curb Jack

A NEW Manley No. 951 Mechanical Curb Skid Jack, portable, light in weight, is equipped with a folding handle and skid plate. Overall length of jack with handle folded is only 5 in. A locking link securely holds handle in folded position. The skid plate or closed bottom provides a large bearing surface which prevents the jack from sinking in soft ground and insures full lift-range regardless of road or ground condition. The lifting range is from a minimum low of 4 in. to a maximum high of 18 in. Raising and lowering control

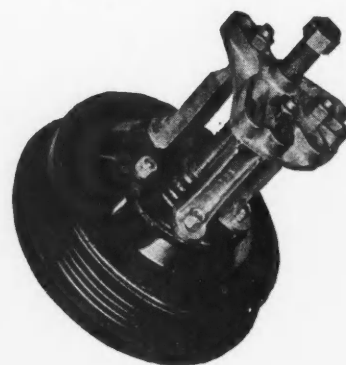


The new factory and office buildings of the Trailer Co. of America at Cincinnati, completed recently, boasts an additional structure 80 x 100 ft. in which the body units are built. Extensive remodeling featured changes in the office building

is operated by an adjustable non-binding steel cable which runs from body to quick-acting, sturdy latch. Made by The Manley Mfg. Division of American Chain & Cable Co., Inc., York, Pa.

Universal Puller

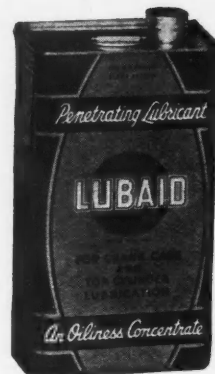
A UNIVERSAL puller that will pull wheels, axles, gears, bearings, steering wheels, and motor pulleys is the latest tool to be made available by the Wagner Electric Corp., 6470 Plymouth Ave., St. Louis, Mo. The tool is known as the Frisz universal puller, and consists of various combinations of the main body casting and high carbon steel adapters that can be assembled to serve the various pulling operations.



This puller may be bought in part for specific operations or complete for all operations. The wheel puller parts alone are priced at \$7.50. The entire assortment of parts for all functions is \$45.

Lubaid Lubricant

LUBAID-TREATED oil prevents film fracture by preventing injurious metal to metal contact at the time of shock loads, caused by rapid acceleration, heavy pulling in mud, snow, or steep grades, it is claimed. It



makes easier the "breaking in" of new or rebuilt motors by giving protection against seizure or scoring. Fleet owners may obtain complete details by writing the LUBAID Company, Milwaukee, Wis.

(TURN TO PAGE 148, PLEASE)

COMMERCIAL CAR JOURNAL
APRIL, 1937

There is a MONARCH DISTRIBUTOR Near You!

★ Regardless of your location—from coast to coast, you will find a conveniently located Monarch Distributor eager to serve you—and efficiently service your Monarch Governors, in the event that service should ever prove necessary.

ALABAMA
Birmingham Electric Battery Co., Birmingham

ARIZONA
Motor Supply Co., Phoenix

CALIFORNIA
Marvel Carburetor Sales Co., Los Angeles
Marvel Carburetor Sales Co., San Francisco

COLORADO
Spitzer Electrical Co., Denver

FLORIDA
General Automobile Supply Co., Tampa
Golf Auto Parts Co., Lake Wales
Patten Sales Co., Miami
Standard Bearings & Parts Co., Jacksonville

GEORGIA
Harris Automotive Service, Atlanta
Motor Supply Co., Inc., Augusta
Motor Supply Co., Inc., Brunswick
Motor Supply Co., Inc., Savannah

ILLINOIS
Mid-States Auto Electric Co., Chicago

KENTUCKY
Kentucky Ignition Co., Lexington
Kentucky Ignition Co., Louisville

LOUISIANA
Suhren, Inc., New Orleans

MASSACHUSETTS
Wm. H. Flaherty Co., Boston

MICHIGAN
Auto Electric & Service Corp., Detroit

MISSISSIPPI
Mississippi Truck Equipment Co., Jackson

MISSOURI
Electric Products Co., Kansas City
Medart Auto Electric Co., St. Louis

NEBRASKA
Carl A. Anderson, Inc., Omaha
Carl A. Anderson, Inc., Lincoln

NEW JERSEY
Wheels, Inc., Newark

NEW YORK
Battery & Starter Co., Inc., Buffalo
J. M. Steinhardt, Inc., Albany
Onondaga Auto Supply Co., Watertown
Onondaga Auto Supply Co., Syracuse
Wheels Inc., New York City
W. E. Bush & Co., Rochester

NORTH CAROLINA
Southern Bearings & Parts Co. Inc., Charlotte

OHIO
Cleveland Ignition Co., Cleveland
G. W. Holmes Co., Columbus
Huebner Supply Co., Toledo
Tri-State Ignition, Inc., Cincinnati

OKLAHOMA
American Electric Ignition Co., Oklahoma City

OREGON
Sunset Electric Co., Portland

PENNSYLVANIA
Auto Equipment & Service Co., Inc., Philadelphia
Pitt Auto Electric Co., Pittsburgh

TENNESSEE
Service Auto Parts Co., Knoxville

TEXAS
Beard & Stone, Dallas
Beard & Stone, Houston
S. X. Callahan, San Antonio

UTAH
Automotive Service Co., Salt Lake City

WEST VIRGINIA
Benjamin Auto Electric Co., Charleston

WISCONSIN
Wisconsin Magneto Co., Milwaukee

THE NATION'S STANDARD

"Supervised Transportation"

MONARCH GOVERNOR COMPANY DETROIT



GAR WOOD

HOISTS and DUMP BODIES



This 9 yd. rock body has automatic downfolding tailgate that opens when dump angle is 18°. Note T44 telescopic hoist, mounted outside truck frame.

Built to STAY ON the JOB

Gar Wood hoists and bodies are extremely rugged, in both design and construction. Their reputation for dependable service has been largely made in the contracting and roadbuilding fields where real stamina is demanded. Always specify Gar Wood equipment—not only because it stands up, but because it also provides any style and size of hoist and body for any dump truck operation.



These 14 yd. bodies are constructed of special alloy steel which provides greater strength with considerable saving in weight. Hoists are F8C cam and roller type.



Type C12 body and D6 hoist. Note high ends for adding sideboards and building up capacity when hauling light bulky materials.



20 cu. yd. side dump body, and Model T44 telescopic hoist. The body weighs approximately 14,000 lbs.

GAR WOOD INDUSTRIES, INC. DETROIT MICHIGAN

(CONTINUED FROM PAGE 146)

"Profits" Bulletin

"HOW to Increase Your Truck Profits," has been released by the H. S. Watson Co., San Francisco. The bulletin discusses obstacles confronting profitable trucking and suggests how these obstacles may be overcome. A copy of this bulletin, No. 110, may be had by writing the H. S. Watson Co., 1145 Harrison St., San Francisco, Cal.

Wiper Blades

MADE IN the new ballon type, K & M Wiper Blades are built with "Inner Girders"—strong cross-sections of rubber

molded into the blade. These Inner Girders prevent the blade from splitting or tearing apart, and also serve to support the blade, keeping it oval and exerting pressure on the wiping edges, forcing them automatically to adhere to the varying thicknesses of the glass. The blade has adjustable bracket which is a combination clip by which the blade is attached to the wiper arm. This bracket permits the driver to raise or lower the blade to suit his individual line of vision. Sizes are 6¼ to 14 in. Kinney & McLaughlin Co.

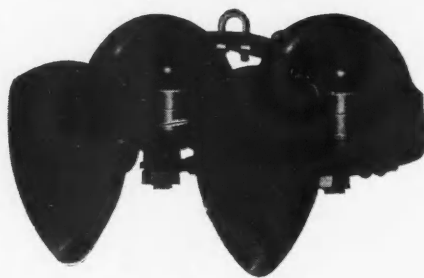
Sure-Plate Reflector Finish

SURE-RITE PRODUCTS CORP., Andrews

and Cedar Park Ave., Philadelphia, Pa., manufacturers of Sure-Weld, are now merchandising Sure-Plate, a complete re-silvering set-up for headlight reflectors. Sure-Plate is not a silver polish. The method requires all old plating to be completely removed before it is applied. The kit includes all buffing wheels, compounds, rouges and silver solution necessary to do a complete job. Total time required is 15 min. per reflector.

Coil-Aires

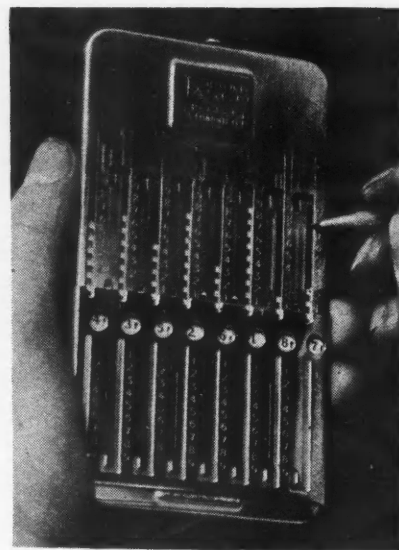
COIL-AIRES are compact horns which can be installed on any make car, bus or truck regardless of the model. The Coil-Aires



are packaged with the horn mechanism wired to the relay and mounted on the specially designed Schwarze installation bracket making it possible to install these horns on most cars in less than thirty minutes—according to the Schwarze Electric Co., Adrian, Mich.

Arithmometer

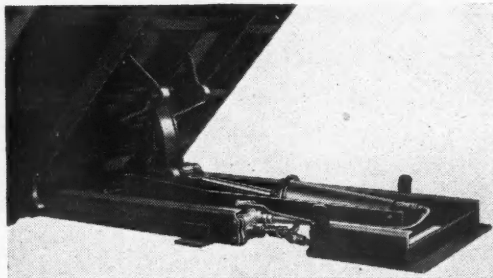
THE Arithmometer adding machine is especially adapted for carrying in the vest pocket. The machine is constructed of cold rolled steel and is guaranteed for five years. It weighs only a few ounces. A great time saver in shop or office.



For departments in which the amount of figuring does not warrant the purchase of a regular adding or calculating machine, for checking incoming or outgoing bills, costs, inventory values, etc., the Arithmometer will prove invaluable. The price is \$2.50. Made by the Tavella Sales Co., 25 West Broadway, New York City. (TURN TO PAGE 150, PLEASE)

MARION

HYDRAULIC HOISTS and DUMP BODIES

**SET NEW STANDARDS OF
HOIST-DUMP PERFORMANCE**

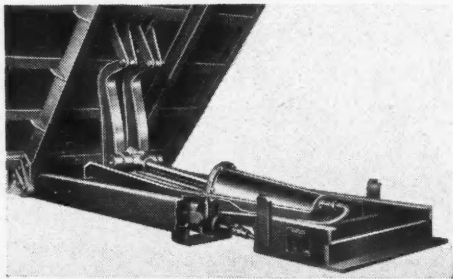
Power for lifting, speed for dumping, and finger-tip control for spreading are built into Marion Hydraulic Hoists. Designed to meet the manifold demands of modern hauling conditions, their durability, adaptability, and efficiency make for up-to-the-minute performance and economy.

Take a look at these rugged features: rigid all-steel subframe, extra heavy castings, specially designed pump control, universal joints built for long wear, heat resistant leather cylinder cup, special

ground and polished piston rod stock, correct distribution of load. Marion Hydraulic Hoists are made in four models to exactly suit your purpose. For Light Duty chassis, No. 216 short wheelbase, No. 266 long wheelbase. For Heavy Duty chassis, No. 267 and No. 267HD.

Fit companions for Marion Hydraulic Hoists are Marion Steel Dump Bodies. Made in a wide variety of types and sizes of either 8 or 10 gauge high resistance steel electrically welded, they have inbuilt quality to withstand the most severe dump truck usage.

DISTRIBUTORS: Write for details of the attractive Marion Distributor Plan.



THE MARION METAL PRODUCTS CO.

HYDRAULIC HOIST AND BODY DIV. • • MARION, OHIO.

AUSTIN

THE ACCEPTED STANDARD



MODEL 1500
27" and 33" Sizes

*Rubb-Air & Gravity Cushioned
Full Floating 5th Wheel*

● THE EASIEST PULLING
FIFTH WHEEL ON THE ●
MARKET TODAY

AUSTIN TRAILER EQUIPMENT COMPANY
MUSKEGON **MICHIGAN**

(CONTINUED FROM PAGE 148)

Touch-up Enamel

THE SHERWIN-WILLIAMS CO., has introduced a new line of Kem X-47 touch-up enamels in colors and gloss to match the original factory finish on Plymouth vehicles for 1936-37. They are offered in handy 5 oz. cans which include a brush. This enamel dries dust-free in an hour.

Battery Guarantee

THE NATIONAL BATTERY CO. announces a new guarantee of 36 months or 72,000 miles on its new kathode truck and bus batteries. The guarantee on the

pleasure car battery of similar construction is for "as long as you own your car."

Lathe Catalog

THE SOUTH BEND LATHE WORKS, South Bend, Ind., has published a new 24-page catalog announcing a new 1937 model 9-in. Workshop Precision Lathe. Over 150 illustrations show the many new styles, features, and applications of the new back-geared, screw cutting lathe.

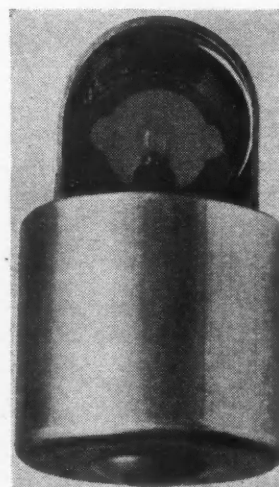
The new 9-in. Workshop Lathe for 1937 is offered in seven different styles to fit a wide number of installations. These new styles are: (1) The adjustable belt tension horizontal motor drive; (2) The counter-

shaft drive; (3) The underneath belt motor drive; (4) The pedestal motor drive; (5) The tool room lathe; (6) The 9 in.-11 in. swing workshop lathe; and (7) The plain type horizontal motor drive.

Electric Flare

THE TURN SIGNAL CORP., 400 E. Rittenhouse St., Philadelphia, is offering a flare made under Winckler exclusive license. This is an electric flare which is dependably sure of full light strength any time, as there is no deterioration through long periods of non-use.

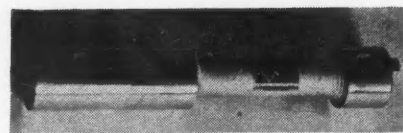
It is a self contained sealed unit approximately 5 in. high and 3½ in. in diameter. It does not depend upon any external materials such as batteries and is unaffected by heat, cold or moisture.



The Flare is made up of a sealed unit having a lamp circuit connected permanently to a battery or cells of the "reserve" type, that is, an inactive form of cell having no electrolyte. The electrolyte is stored within the sealed unit in a vitreous container. When it is desired to use the unit, it is merely necessary to strike the bulbous protrusion of the unit sufficiently hard to dent it, thus breaking the vitreous container. The light will burn 36 hours.

10MM Plug Wrench

BONNEY FORGE & TOOL WORKS, Allentown, Pa., has designed a 10mm. spark plug wrench. It is made of chrome-vanadium steel, chromium plated with the heads buffed to a high, permanent lustre.

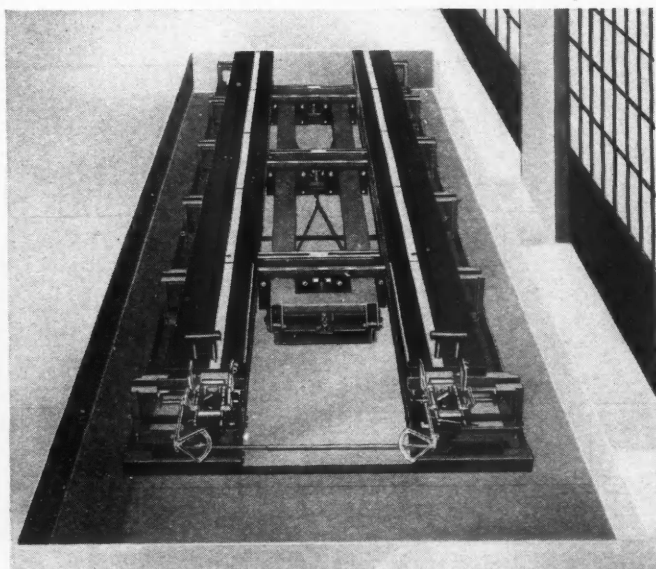


One end of the wrench is equipped with a 9/16-in. double-hexagon opening that fits over the spark plug. The other end has a bit or blade for inserting or removing the adaptors for 10mm. plugs. This wrench, known as No. 2595, is for use with a 5/16-in. round handle.

(TURN TO PAGE 156, PLEASE)

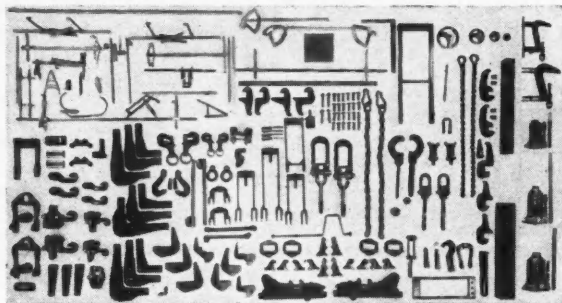
COMMERCIAL CAR JOURNAL
APRIL, 1937

America's Complete Alignment Equipment



BEE-LINE
Super
Model
for
Servicing
ALL
types of
MOTOR
VEHICLES

**BEE-LINE'S
UNIVERSAL
ALIGNER**



Alignment Tools For All Makes of Motor Vehicles

LOWERS FLEET OPERATING COSTS

Fleet owners can now get a new low operating cost on trucks, busses, trailers and passenger cars, with this new, Super-BEE-LINE precision alignment service. Tires—gasoline, mileage, and safer operation are vital factors in profitable operation. Any aggressive service organization can get this wholesale business in their territory if they have this BEE-LINE Service.

The BEE-LINE Super alignment equipment is the only equipment on the market today that takes care of complete chassis—axle and wheel alignment for small passenger cars, and the largest busses or trucks.

When You Buy BEE-LINE You Are Buying the Best.

BEE-LINE CO.

DAVENPORT

Dept. 600-4

IOWA

YOU WOULDN'T BUY A PACK BURRO
THAT WALKED ON ONLY TWO LEGS...

IT TAKES
ALL FOUR LEGS...
OR
ALL FOUR WHEELS

to do the job Right



WHEN YOU OPERATE A
MARMON-HERRINGTON
THE FRONT WHEELS
WORK FOR YOU AS
WELL AS THE REAR

THERE'S no half-way performance with a Marmon-Herrington all-wheel-drive. Every wheel does its part in giving you an extra measure of performance, traction, safety and economy—either on or off the highway. Marmon-Herrington all-wheel-drive trucks will go off the road and do work that combines the efficiency of the truck and the tractor. They will give you more ton-miles and haul greater payloads than ever before.

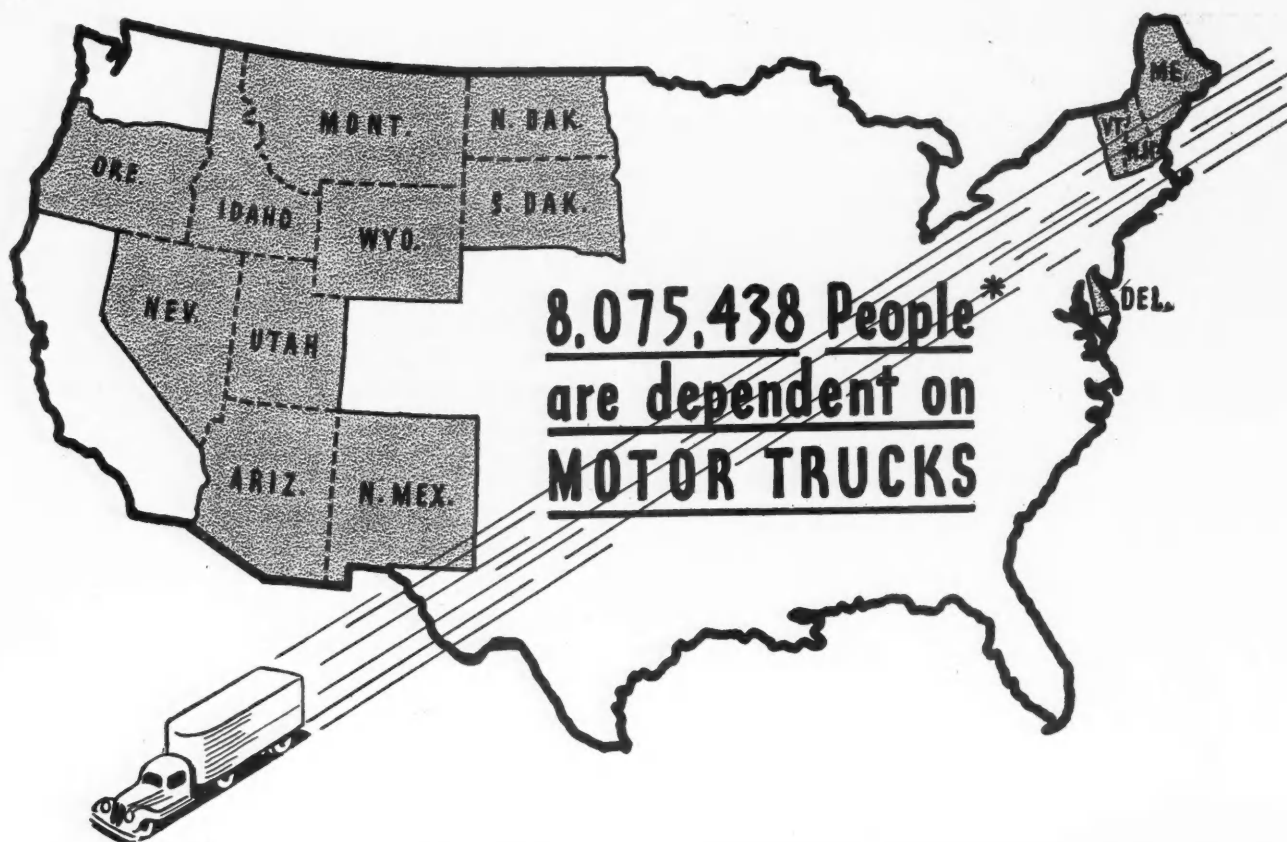
The performance of Marmon-Herrington all-wheel-drives cannot be gauged by the performance of any other type or make of truck. It is entirely new, entirely different, far superior. The FRONT WHEELS work for you as well as the REAR WHEELS. There is nothing lacking—whether the job is in mud or sand, on hills, through broken terrain, on rough, unpaved roads . . . or whether it is on modern, improved highways.

A COMPLETE ALL-WHEEL-DRIVE LINE

MARMON-HERRINGTON engineering leadership has produced the **FIRST** complete all-wheel-drive truck line in history. There are many Marmon-Herrington all-wheel-drive Ford V-8 passenger, commercial and truck models. Then, there are more than thirty models of standard Marmon-Herrington types—some driving through all four wheels and others through all six wheels. Capacities range up to more than 50,000 pounds. You can buy a Marmon-Herrington all-wheel-drive for **EVERY NEED** and **EVERY PURPOSE**. Write for specifications and prices without delay.

MARMON-HERRINGTON COMPANY, Inc., Factory and General Offices: Indianapolis, Ind., U. S. A.

MARMON-HERRINGTON ALL-WHEEL-DRIVE TRUCKS



● 48,492 communities in the United States depend entirely on motor truck service for the necessities and comforts of life. The number of people who live in these communities equals the entire population of all the states shown. *They have no other shipping facilities.*

What vivid evidence this is of the development of modern motor transportation. But this broad scope and high efficiency of motor truck service did not just happen. It is the sum of many years of careful study of design and materials, of manufacture and of operation. The result today is top efficiency carriers for every class of load under every working condition.

In the construction of refrigerated truck bodies, Dry-Zero Insulation has first place because during these years of experiment and improvement body engineers and operators of truck fleets found it had, among other things, five qualities absolutely essential for economical and efficient operation.

High insulation efficiency, light weight, moisture resistance, rot resistance, permanence—all five must be inherent in the insulation of a truck body if it is to be practical. With all five, the fleet operator is sure of per-

manent, efficient protection of his loads for the entire life of the truck itself.

Because Dry-Zero Insulation has these necessary Five Qualities, it has been used in more and more truck bodies ever since it was first introduced in 1921. Regularly, these trucks carry safely to destination such highly perishable products as meat, ice cream, milk, beer, fish, candy, bakery goods, green groceries, cheese, flowers, ice and dry ice.

These facts mean that if you carry perishables, you can make sure of safe delivery by insulating the truck body with Dry-Zero Insulation.

Investigate Dry-Zero Insulation for yourself. Ask your body builder or engineer for frank opinions. If you have a specific problem on which you want information, submit it to us for an insulation analysis. Simply send us a letter giving the size of the body, the merchandise to be carried, the length of time in transit and the required temperature. There is no obligation.

* From a survey made by Automobile Manufacturers Association, and 1936 population estimates

DRY-ZERO
INSULATION
REG. U.S. PAT. OFF.
The Most Efficient
Commercial Insulant Known

DRY-ZERO CORPORATION, 222 North Bank Drive, Chicago • 687 Broadview Ave, Toronto

COMMERCIAL CAR JOURNAL
APRIL, 1937

Willards

COST LESS TO OWN

- because they last longer

... crank faster

... don't let you down

"DUAL RUBBER" INSULATION

A New Willard Development

"Dual Rubber" insulation is the ideal combination for batteries in commercial-car service. It consists of a combination of Willard's exclusive Thread Rubber Insulators with special perforated rubber sheets. In thousands of trucks and buses "Dual Rubber" has proven its outstanding ability to cut costs per mile. Let us send you the evidence. A note will bring it to you by return mail.



WILLARD STORAGE BATTERY COMPANY • CLEVELAND • LOS ANGELES • TORONTO, CANADA

COMMERCIAL CAR JOURNAL
APRIL, 1937

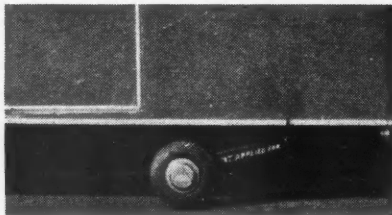
(CONTINUED FROM PAGE 150)

Metallizing Catalog

THE METALLIZING CO. of America, Inc., 1351 East 17th St., Los Angeles, Cal., has just prepared a 36-page booklet which is a complete photographic story of the metal spraying process. This booklet covers thousands of applications of the Metallizing method. A copy may be had by writing the manufacturer.

Auxiliary Charger

AN unique auxiliary battery charging device for trailers and trucks has been announced by the General Armature Corp., Chicago. This device is secured by a



pivoted casting to the underside of the truck or trailer frame or any other convenient position under the car where a pneumatic rubber-tired wheel can travel freely along the highway. It is this "fifth wheel" which actually does the work, since it is direct-connected to a special generator. The unit is intended to provide extra

current for lights, radios, electrical accessories. Tests show it will charge about 20 amperes at 22 miles per hour. It may or may not be used with a battery as conditions require.

Voltage Regulator

THE P AND D MFG. CO., INC., 19-02 Steinway St., Long Island City, N. Y., has a new voltage regulator which fits all popular makes of cars including the Ford V-8. It is a two-step six volt regulator to fit three brush generators. The universal bracket is designed for easy mounting.

Brake Synchronizer

A SIMPLE control, by means of which trailer brakes can be instantly adjusted in accordance with the load being carried, is available from Linderman Devices, Detroit. Mounted on the dash of the tractor it is readily accessible to the driver's hand and can be operated without stopping the vehicle train. In operation it controls at the option of the driver the pressure admitted to the trailer brakes, so that trailer and tractor can be completely balanced as to braking effort under all conditions. The device could be applied to trucks also.

Titeflex

REG. U. S. PAT. OFF.

ALL-METAL FLEXIBLE FUEL LINES



Titeflex is the only all-metal flexible fuel line. For twenty-one years used as original equipment by the Automotive Industry. Replace with the genuine article as recommended by all Automotive Laboratories.

• • • • •

Titeflex is furnished in all sizes from 1/8" to 3" and we supply any standard pipe fitting or copper tube S. A. E. connection.

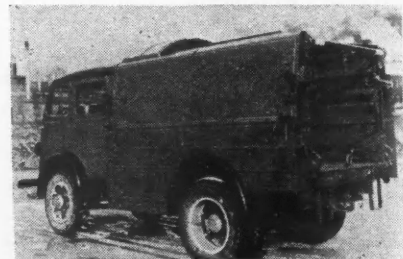
• • • • •

Titeflex has no rubber or composition material in its construction, so that it is not affected by gasoline or oil under pressure. A very flexible tube which readily absorbs vibration and movement.

• • • • •

Titeflex has been proved through years of service and is entirely satisfactory as a flexible fuel line. Send for Catalog 109—Do not accept substitutes.

TITEFLEX METAL HOSE CO., NEWARK, N. J.



Two views of the new telephone bodies built by the Highway Trailer Co., Edgerton, Wis., includes a six-man cab. A propeller shaft power take-off is used to transmit power to a double drum winch with spline type positive clutch on the large drum and positive acting automatic work brakes on both drums

Brake Hones

THE HALL MFG. CO., has designed Hydraulic Brake Hones, which are offered in a 4-hone universal set with a range of 3/4-in. to 2 1/16-in. and a 3-hone set with a range of 3/4-in. to 1 3/4-in. These hones can be used with electric drill or in drill press and are fitted with 400 grit stones which quickly remove all abrasions, corrosion and scratches from the brake cylinders. The 4-hone universal set is priced at \$20. The 3-hone set at \$15.

(TURN TO PAGE 158, PLEASE)

"A quality appearance

BUILDS GOOD WILL," *says Phillips*



**I MAKE EVERY PHILLIPS
TRUCK A FINE
PHILLIPS ADVERTISEMENT**

WHEREVER a gleaming Phillips truck is seen, it gives people the *right* impression. Every Phillips truck is a handsome, smart-looking Phillips representative.

And the brilliant, durable DULUX finish that gleams on Phillips trucks is the same finish that gleams on trucks all over the country—

because fleet owners call it "tops" for beauty and economy.

DULUX is so durable, it *keeps* its original fine appearance so *much* longer, that it makes trips to the paint shop few and far between. DULUX stands up under mechanical injury, weather, grease and oil. DULUX is resistant to chipping, cracking and corrosion. If you're

looking for a way to lower your maintenance costs, DULUX is one sure answer. DULUX can be applied in your own shop, or an Authorized DUCO-DULUX Refinisher can do it for you.

Ask your Du Pont Distributor for details. E. I. du Pont de Nemours & Co., Inc., Finishes Division, Refinish Sales, Wilmington, Del.

DU PONT
REG. U. S. PAT. OFF.
**AUTOMOTIVE
DULUX**
REG. U. S. PAT. OFF.



(CONTINUED FROM PAGE 156)

Piston Ring Compressor

THE AIRCRAFT SPECIALTIES, INC., Lapeer, Mich., piston ring compressor is now being produced both in the standard size and master size. The master size has been designed for use on trucks, tractors, diesels and aircraft motors and has a capacity of from 3½ in. to 7 in. The dealer net price is \$1.50 each.

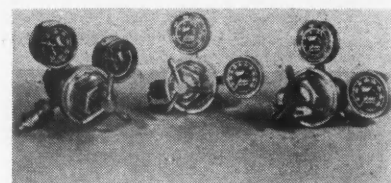
Locking Unit

A NEW type of control device, which automatically locks in any position to which it is set, has been placed in production by

Arens Controls, Chicago. A steel ball is used as a friction locking means. The control can be pulled out to any desired position, and it will stay there regardless of vibration. To release it, a button in the center is pushed in. The locking force is varied by increasing or decreasing the pressure of the spring in the head assembly.

Oxweld Regulators

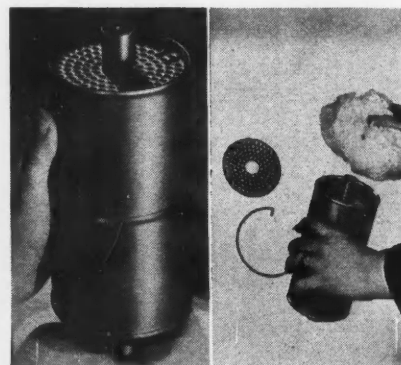
A SERIES of three new regulators providing accurate oxygen and acetylene regulation through the entire range of welding and cutting operations has just been announced by The Linde Air Products Co., 205 E. 42 St., New York City. All three regul-



tors are of two-stage construction. The Type R-64 is designed to operate with extreme precision in all welding and cutting operations requiring oxygen pressures up to 75 lb. per sq. in. The Type R-65 is designed for heavy-duty cutting operations, which may require oxygen pressures as high as 200 lb. per sq. in. The Type R-66 acetylene regulator is a companion piece for either of the oxygen regulators and will give accurate acetylene regulation for all welding and cutting operations.

Oil Filter Element

THE MICHIANA PRODUCTS CORP., Michigan City, Ind., offers an alternate filter element for the H-W Oil Filter. The new Duo-Flo oil filter element, is cleanable. It is "two filters in one," the filtering



medium being halved into upper and lower filters. This doubles the area of filtration, permitting the oil to flow more slowly and increasing the efficiency and capacity of the filter.

Wrench Set

THE No. 33 wrench set contains eleven Holo-Krome file hard spring tempered socket screw wrenches, fitting all hexagonal type set screws from No. 8 to 1-in. diameter, inclusive, and cap screws from No. 8 to ½-in. diameter, inclusive, and all sizes of stripper bolts. The set is contained in a compact, heavy gage metal box with reinforced corners, snap cover with regular hinge, a place for each wrench, and will fit any tool box. The set lists for \$1.25, and is made by the Holo-Krome Screw Corp., Hartford, Conn.

Motor Freight Guide

THE new edition of the Official Motor Freight Guide is now available. This volume which is published three times per year lists time schedules, maps and companies engaged in freight hauling. The single copy price is \$3. It is published at 738 W. Van Buren St., Chicago, Ill.

(TURN TO PAGE 160, PLEASE)

AUTOPULSE

ELECTRIC FUEL PUMP

ELIMINATES
FUEL-FEED
TROUBLES

in 5 definite ways

1. AUTOPULSE MEANS ECONOMY • Mounted away from the motor, it supplies the carburetor with COOL fuel while camshaft pumps, being mounted on the motor, deliver it so heated, that 7, 10, and even 15 percent of the fuel passes out through the carburetor vent in the form of vapor.

2. CURES VAPOR LOCK • Vapor lock, a common complaint with engine mounted pumps, because they have to suck bubbles when heat boils the gas, is unknown with Autopulse, since it is mounted in a cool spot near the gas tank and pushes fuel in a solid stream.

3. PRIMES INSTANTLY • Autopulse fills the carburetor the instant the ignition is turned on. There is no repeated use of the starter or drain on the battery, by forcing the motor to pump its own gas. Quick starting is assured even in zero weather.

4. EXCLUSIVE MULTIPLE ADVANTAGES • Whenever Autopulse multiple hookups are used, the failure of one pump does not affect the others—you always get in under your own power.

5. IDEAL FOR DUAL USE • Expensive towing and costly delays due to failure of the fuel feed system can be avoided by using Autopulse as an additional pump where an engine is already pump equipped.



See your jobber or
write direct.

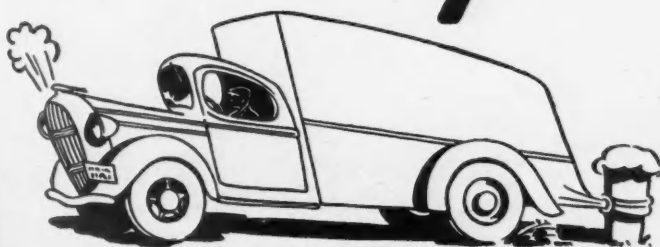
**AUTOPULSE
CORPORATION**

DETROIT, MICHIGAN

● EXCHANGE AND REPAIR SCHEDULE

Permits new pump purchases at a saving with turn-in of vacuum tank, mechanical pump, or ANY type Autopulse—or purchase of factory rebuilt pump with new pump guarantee.

*"You need more
gears Buddy"*

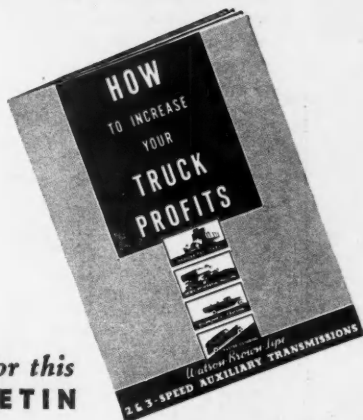


Don't
BLAME YOUR TRUCK
Simply
FILL THE GAPS
BETWEEN YOUR
GEARS

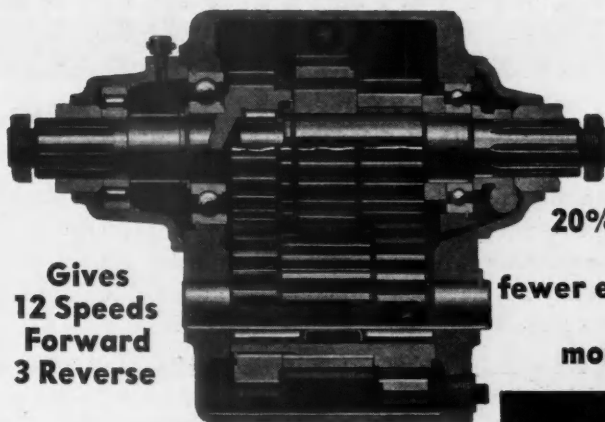
with

WATSON-BROWN-LIPE

Your engine probably has all the power you need, but it can't perform with only 4 speeds as well as it could with more. Don't you find you could use different gear ratios to advantage every day, if you had them? Watson-Brown-Lipe Auxiliary Transmissions give them to you; one lower gear, one higher, and two more speeds between each regular gear. You can use your engine power to better advantage. You'll get more power, faster trips, lower gasoline bills, less oil consumption, reduced operating costs, less wear and tear, longer truck life, better performance, more earnings and more profit.



Send for this
BULLETIN



**Gives
12 Speeds
Forward
3 Reverse**

**20% less Fuel
23%
fewer engine r.p.m.'s.
52%
more power**

ASK THE NEAREST DEALER

Atlanta, Georgia, Truck Equipment Co.
Birmingham, Alabama, Truck Equip. Co.
Butte, Mont., Anderson Motor Co., Inc.
Billings, Mont., Hines Motor Supply Co.
Boise, Idaho, Olson Mfg. Co.
Bozeman, Mont., Hines Motor Supply Co.
Buffalo, N. Y., Truck Equipment Co.
Cambridge, Ohio, Allison Body Sales Co.
Charlotte, N. C., Baker Equip. Engr. Co.
Charleston, W. Va., Baker Equip. Engr. Co.
Chicago, Ill., Erlinder-Platt Sales Corp.
Chattanooga, Tenn., A. Fasanacht & Sons
Chicago, Ill., Truck Equipment Co., Inc.
Columbus, Ohio, Hercules Body Sales Co.
Des Moines, Iowa, Herring-Wissler Co.
Denver, Colo., Timpke Brothers

Detroit, Mich., N & N Wheel Service, Inc.
El Paso, Tex., Watkins Motor Co., Inc.
Fort Wayne, Ind., Allied Truck Equip. Co.
Fort Worth, Texas, Hobbs Mfg. Co.
Great Falls, Mont., Hines Motor Supply Co.
Havre, Mont., Hines Motor Supply Co.
Honolulu, Continental Trailer & Equip. Co.
Houston, Texas, Hobbs Mfg. Co.
Indianapolis, Ind., Allied Truck Equip. Co.
Kansas City, Mo., Cons. Body & Trailer Co.
Long Island, N. Y., Truck Equip. Co., Inc.
Los Angeles, Calif., Lambert Co., Ltd.
Louisville, Ky., Dealers Truck Equip. Co.
Lewistown, Mont., Hines Motor Supply Co.
Milwaukee, Wis., Shadbolt & Boyd Co.
Minneapolis, Minn., Charles Olson & Sons

New Orleans, La., John M. Walton
New York City, N. Y., Wheels, Inc.
Newark, New Jersey, Wheels, Inc.
Omaha, Neb., Badger Body Mfg. Co.
Pittsburgh, Pa., Auto Truck Equip. Co.
Phoenix, Ariz., Welch Mfg. Co.
Philadelphia, Pa., Truck Equipment Co.
Portland, Ore., Wheel & Rim Service, Inc.
Richmond, Va., Baker Equip. Engr. Co.
Reno, Nevada, Dennison Equip. Co.
Rochester, N. Y., Truck Equip. Co., Inc.
Seattle, Wash., A. D. Blackler Co.
Shelby, Mont., Hines Motor Supply Co.
Sheridan, Wyo., Hines Motor Supply Co.
St. Louis, McCabe-Powers Auto Body Co.
Spokane, Wash., Roy E. Hotchkiss Co.
Salt Lake City, Utah, Koopsel & Love
Syracuse, N. Y., Truck Equip. Co., Inc.
Toledo, Ohio, Turner Brake Service
Tulsa, Okla., Braden Winch Service Co.
Washington, D.C., S. J. Meeks' Son

H. S. WATSON CO., 1145 Harrison St., San Francisco. Eastern Branch: Box 385, Toledo

COMMERCIAL CAR JOURNAL
APRIL, 1937

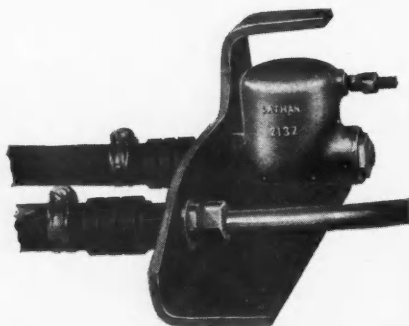
This **PIECE**
OF EQUIPMENT
WILL
MAKE
YOU
MONEY

(CONTINUED FROM PAGE 158)

Water Trap

THE NO. 2132 Water-Trap is a simple and unique device designed to keep water out of the control line and the remote control valve of all types and makes of power brake systems. It is made by Lathan Co., Inc., San Francisco. The trap is installed in the control line immediately behind the hose coupling and the water is stopped at the very entrance. The self-draining feature becomes automatically operative when the hose is disconnected.

With the use of the Water-Trap, a very simple, inexpensive and efficient means is

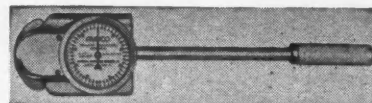


provided to keep water out of the system, thus protecting the lines and valves and

insuring proper operation under all climatic conditions. By disconnecting the hose, the water drains instantly. The list price is \$3.75.

Tension Wrench

A NEW cylinder head bolt wrench is equipped with a dial to register the pounds pull applied to the bolt, so that the head will be uniformly tightened. The wrench



can also be used to tighten bearing caps. Price—\$17.50. Automotive Maintenance Machinery Co., 2112 Commonwealth Ave., North Chicago, Ill.

Fuel-Om-Eter

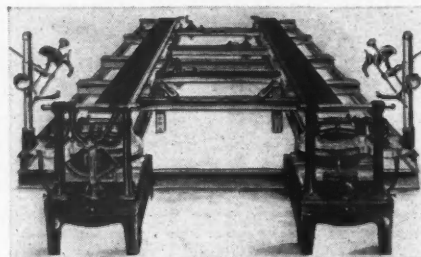
THE Fuel-Om-Eter is a new instrument for checking gasoline mileage on passenger cars and trucks at speeds from 30



to 60 m.p.h. Using a speedometer type dial, it measures the gasoline flow from the tank to the carburetor, and shows the consumption directly in miles per gallon. The consumption can also be measured in gallons per hour, for idling tests, which are extremely important to taxicabs and fleet owners using light delivery cars. The Allen Electric & Equipment Co., 2101 North Pitcher St., Kalamazoo, Mich.

Unit Aligner

THE Aut-O-Meter is a combination steering and wheel analyzer and frame and



axle straightener. Steering geometry is figured by definitely locating the position of the spindle, not from the side of the tire or rim. Automotive Products Corp., 59 East Van Buren St., Chicago, Ill.
(TURN TO PAGE, 162, PLEASE)

DETROIT **COMPENSATING** AXLE CORP.

TRAILER AXLES AND DIFFERENTIAL WHEELS

481 BEAUFAIT AVE.

DETROIT, MICHIGAN

BECAUSE road crowns vary a great deal semi-trailers with conventional axles cannot maintain an even distribution of weight on the tires. This causes early tire failure, excessive wear and blowouts. This can be avoided by installing a Detroit Compensating Axle which automatically adjusts its wheels to fit any normal road crown. Such action means that the weight is more evenly distributed on each tire.

In addition the wheels of this axle have independent rotation or differential action, which means that the tires *roll*—they cannot drag or scuff at any time.

These two features alone account for the fact that you should get at least 150,000 miles tire wear or even more, by the use of this new trailer axle.

**EQUALIZED LOADS
SAVE HUGE TIRE BILLS**



TO HELP MAINTAIN SCHEDULES IN *any* KIND OF WEATHER

When the weather reports read, "ceiling: zero; visibility: zero," does it mean that the degree of your fleet's operation becomes "zero" too? If it does, you lose money.

To help get the load through safely, on time, every time—regardless of weather conditions—every unit in your fleet should be equipped with these two Guide Lamps. The Guide Fog Lamp mounts behind the bumper, either below or above it, and directs a piercing ray *through* the densest fog, sleet or rain. Its specially designed amber-colored lens is scientifically cut to distribute light on the road properly. The

32-candlepower bulb is shielded to prevent "stray" light from reflecting off fog particles and causing glare.

The Guide Driving Lamp throws an exceptionally intense, long-range beam which may be concentrated or enlarged by means of a focusing adjustment feature. Protect your drivers, vehicles, loads; keep them on the road and on time regardless of weather. Equip them with both these Guide Lamps. Order from your nearest Authorized Guide Lamp Distributor or United Motors Branch.

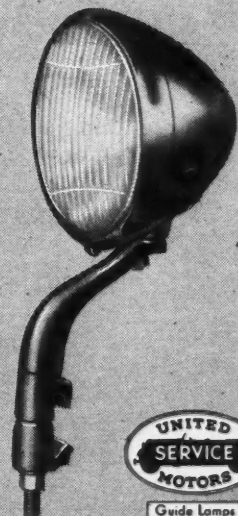
Guide

LAMP DIVISION
GENERAL MOTORS CORPORATION
ANDERSON, INDIANA



GUIDE DRIVING LAMP—The latest type of auxiliary lamp for safe night driving. Supplements regular headlights, with a long-range "driving" beam that lights up signs, curves, and any obstructions long before you get to them. Universal mounting.

GUIDE FOG LAMP—The penetrating amber ray provides clearer visibility and eliminates hazardous reflection from moisture particles when driving in fog, snow or sleet. Weather-tight construction assures dependable performance and long life.



(CONTINUED FROM PAGE 160)

Valve Seat Inserts

THE new Hall line of Motor-Metal valve seat inserts are individually cast of a special alloy which has the same co-efficient of expansion as the motor block but because they are harder and closer grained they will stand up far longer than the original cast-iron seats. Hall chrom-Steel seat inserts are individually cast from a special alloy of chromium and molybdenum which has many of the characteristics of high speed steel. Because they retain their hardness, even when red hot, without warping or distortion, they are recommended for use in all heavy duty motors.

Both types of Hall seat inserts are available in several outside diameters for every inside diameter. This makes possible the use of these seat inserts for both initial and replacement installations. Hall Mfg. Co., Toledo, Ohio.

Electric Pliers

THE No. 5 model ideal electric plier is a new and novel type of electrically heated soldering tool for small soldering work. It is a product of Ideal Commutator Dresser Co., 3051 Park Ave., Sycamore, Ill.

The company has also developed the Ideal No. 10 electric pliers, which will do work over twice the size of that for which the No. 5 is used.

The larger size pliers are used for soldering lugs up to 1050 amp. or sweating pipe fittings up to 2½ in. in diameter, under continuous operation. When used only intermittently, the No. 10 pliers will handle pipe or fittings up to 4 in. in diameter.

Dayton Compressor

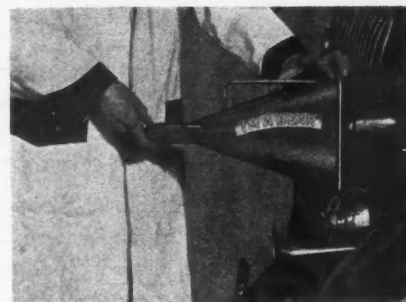
THE Dayton Air Compressor Co., Dayton, Ohio, has a new line of 1937 "V" models styled to service automotive America. These new "V" models include two stage types ranging from 3 to 12 c.f.m. and single stage types ranging from 7 to 12 c.f.m., in both vertical and horizontal designs.

The new "V" type compressors are completely automatic, have centrifugal unloaders, dust-proof crank case, new style drain from top of tank, V-belts roller bearings, and other modern and unique features.

Headlight Meter

A NEW instrument which quickly measures headlamp light output by means of the photo-electric cell has recently been announced by the Bear Mfg. Co., Rock Island, Ill.

The open end of the output meter is



placed against the headlamp lense so that the light rays are projected through a diffusing element and reflected to a sensitive photo-electric cell which in turn translates their volume and intensity on the dial. The dial is divided into three sections, Poor, Medium and Good. The pointer on the dial tells at a glance the rating of the lamp, and reflector. By replacing the headlight lamp and testing again, the trouble can be traced to its cause which is either in the lamp, reflector or current supply.

Bonney Sockets

BONNEY FORGE & TOOL WORKS, Allentown, Pa., has recently added two new socket sets to its line of tools. One set, No. D, includes an assortment of 10 sockets for ½-in. square drive and a ratchet handle with lug. The sockets have double-hexagon openings ranging in size from 7/16 in. to 1 in.

All parts are made of "CV" Chrome-Vanadium Steel, chromium plated and with heads buffed to a high, permanent lustre.

The complete set is packed in a strong, black enameled metal box measuring 11¼ in. x 3¾ in. x 1½ in.

The No. D1 set is identical with the No. D set except that it is supplied with a 15 in. hinge handle instead of ratchet. The black enameled, metal box in which this set is packed measures 16½ in. x 3 in. x 1¾ in.

(TURN TO PAGE 164, PLEASE)

FOR ACCURATE TIRE PRESSURES

Fleet service schedules require that tires be checked regularly, some as often as three times a day. For this type of work, service men need a tire gauge that can be used almost continually with unvarying accuracy.

Schrader Tire Gauges are known for their outstanding dependability. Their minute accuracy is maintained, even in severe service, by the famous "direct-action" principle.

To be sure of maintaining correct tire pressures, even in a road emergency, equip each of your vehicles with a Schrader Gauge. Regularly used, it will pay for itself many times over.

There is a Schrader Tire Gauge for your particular requirements. Order from your regular supplier.

A. SCHRADER'S SON, BROOKLYN, N. Y.

Division of

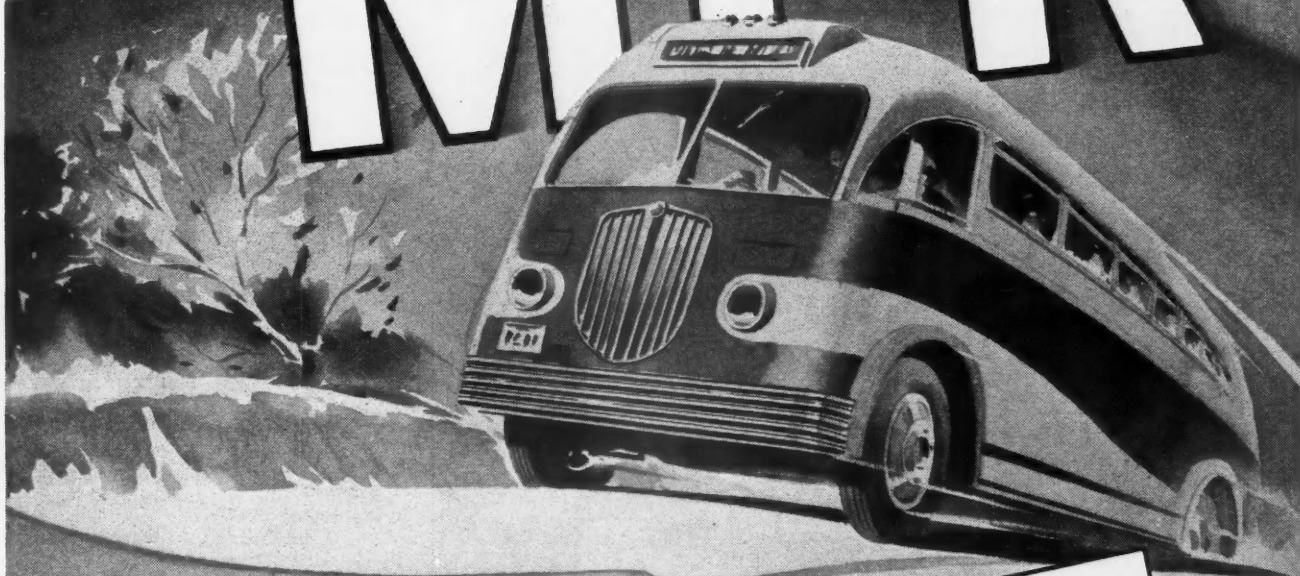
SCOVILL MANUFACTURING COMPANY, INC.

Schrader
REG. U.S. PAT. OFF.
TIRE GAUGES

In Gasoline, It's Miles Per Gallon

IN CABLE LIFE... IT'S

MPR



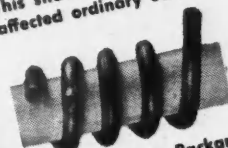
* MILES PER REPLACEMENT

Spark plug wires . . . ravaged by heat and cold, rotted by water and oil, worn by abrasion, oxidized by age, and eaten by corona . . . wear out. The *balanced characteristics* of Packard FOUR-FORTY Ignition Cable, with its secret-formula inorganic-base compound sheath, resist to a higher degree *all* these arch-enemies of cable insulation! That's why FOUR-FORTY is known as the cable that gives the most MPR—most miles per replacement. Packard FOUR-FORTY eliminates one ignition cable replacement out of every three! Prove this for yourself. Install Packard FOUR-FORTY on your equipment now—reduce operating and maintenance costs by getting more MPR! Order from your jobber today. Packard Electric Division, General Motors Corporation, Warren, O.

PROOF OF PACKARD 440's GREATER MPR!



This shows how the test affected ordinary cables



This shows how Packard FOUR-FORTY withstood the test practically undamaged!

HERE IS THE TEST

Hot oil at 200 degrees F. for 24 hours.

Then, oven heat at 210 degrees F. for 76 hours.

Then, more oil at 200 degrees F. for 24 hours.

Then, salt water, room temperature, for 24 hours.

Finally, more oven heat, 250 degrees F. for 15 hours.

Packard

REG. U.S. PAT. OFF.
TRADE MARK

THE STANDARD WIRING EQUIPMENT OF THE AUTOMOTIVE INDUSTRY

Outstanding No-Accident Records

(Best All-Time Records Known to National Safety Council)

Type of Fleet	Company	No-Accident Miles
Passenger Car.....	Gulf Companies (Ft. Worth Division), Houston, Tex.	1,784,028
Inter-City Trucking.....	Morgan Packing Co., Austin, Tex.	1,424,048
Inter-City Bus.....	Southeastern Greyhound Lines, Birmingham, Ala.	1,249,143
Laundry.....	South Shore Laundry, Chicago	968,000
Local Cartage.....	Columbus Motor Express, Inc., Columbus, Ohio	941,625
Misc. Manufacturing Plants.....	Corn Products Refining Co., Edgewater, N. J.	784,480
Bakery.....	American Bread Co., Nashville, Tenn.	779,592
Newspaper.....	Columbus Citizen, Columbus, Ohio	711,959
Public Utility.....	Atlantic City Electric Co., Atlantic City, N. J.	708,611
Petroleum (trucks).....	Shell Petroleum Corp., Shell Pipe Line Corp., Cushing, Okla.	662,942
Dairies.....	Consumers Dairy Co., Union City, N. J.	532,680
Ice.....	Mountain Ice Co., Jersey City, N. J.	489,400**
City Trucking.....	U. S. Engineer Dept. (South Pacific Division)	483,185
Building Materials.....	H. Zeef & Sons Gravel Co., Grand Rapids, Mich.	433,838
City Bus.....	Triple Cities Traction Co., Binghamton, N. Y.	328,315
Department Store.....	United Parcel Service Co. (East Division of Los Angeles), Los Angeles, Calif.	322,389
Coal and Coke.....	Rainey-Wood Coke Co., Swedeland, Pa.	314,859

**Denotes unbroken record.

Compiled from reports up to September 1, 1936.



Handsomely streamlined into the standard Ford cab . . chrome trimmed grille, radiator shell and hood . . hinged at the front of the truck frame . . assembly tips forward for adjustments . . the whole motor exposed and ready for complete engine repairs in three minutes . . easy to get in and out of cab, yet high enough to avoid all headlight glare and give a remarkably clear view of traffic.

Write for new low prices and complete information on DEARBORN LINE

TRANSPORTATION ENGINEERS, Incorporated
10441 Shoemaker Street Detroit, Michigan

Dearborn Line

(CONTINUED FROM PAGE 162)

Valve Refacer

HALL has a new, wet type valve refacer designed to reface valves of all types and sizes. The grinder head and coolant pump are driven by a $\frac{1}{4}$ hp. 6000 r.p.m. universal motor which develops $\frac{1}{2}$ hp. under load. A $\frac{1}{6}$ hp. universal motor drives the work head at a rheostatically controlled speed of 60 to 150 r.p.m. which offers a speed range that insures the best possible finish on valve heads.

Among the many features of this new refacer are a diamond dressing attachment that may be used for dressing the wheel without removing the valve from the chuck, an enclosed light mounted directly over the grinding wheel and a pockless type pump which supplies a stream of double filtered coolant. Hall Mfg. Co., Toledo, Ohio.

Machinery Trailers

C. R. JAHN CO. of LaCrosse, Wis., announce two new heavy machinery trailers. They are the Model "SP" 8-wheel, and Model "DF" 12-wheel. Both can be had with either solid or pneumatic tires.

Free Diesel Book

If you are interested in Diesel engines (and who isn't) you can obtain a copy of the brand new publication by the Cummins Engine Co., Columbus, Ind., called the Dependable Diesel by writing that company.

This publication describes the actual use of Diesel engines in many installations. The facts are presented in feature story style and the entire publication is beautifully illustrated and bound and makes extremely interesting reading. Write direct to the factory for your free copy.

[More Products Page 180]

Safety Uniformity Gains in 33 States

Five states have already conformed and 28 other states are planning to conform with the safety regulations adopted for interstate carriers under the Federal Motor Carrier Act, according to reports received by the Motor Carrier Bureau of the Interstate Commerce Commission.

The first five states to effect uniformity in safety regulations were Georgia, Kansas, Kentucky, Mississippi and Tennessee.

Thirteen states are reported planning to adopt conformity regulations. They are: Florida, Indiana, Iowa, Missouri, Nebraska, Ohio, Oklahoma, Oregon, South Dakota, Texas, West Virginia, Wisconsin and District of Columbia.

Fifteen states reported no material conflict with the intent and scope of the I. C. C. safety regulations and this friendly attitude is expected to be followed by adoption. The states are: Arizona, Arkansas, California, Connecticut, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Pennsylvania and Vermont.

American...

**BUILDERS OF
STANDARD PUBLIC
UTILITIES** *Equipment*



STANDARD Public Utilities Equipment built by American includes bodies, derricks, winches, power take-offs, trailers, reels, pintle hooks, drawbars, and many accessories. American's 24 patents and patent designs cover derrick troughs, sliding metal roofs, ladder racks, door locks, and body construction in general, as well as other important mechanical features. American's contributions to modern public utility equipment have outnumbered all contemporaries Our 120-page catalog will give you the details.

American, being a manufacturer, handles your job complete. "You furnish the chassis—we do the rest."

THE AMERICAN COACH & BODY COMPANY

WOODLAND AT EAST 93RD STREET

CLEVELAND, OHIO



Hein-Werner Hydraulic Jacks
appeal to men who are
PRICE WISE
and **VALUE WISE**

Comparison Is Convincing

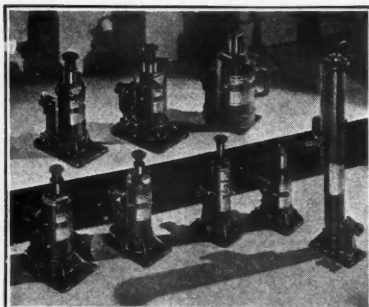
Month after month HEIN MARCHES ON—leading the way to bigger and better business with a complete line of hydraulic jacks that are built right and priced right.

The popular 5 ton capacity jack, shown at right, is typical of the modern design, compact sturdy construction, easy action and dependable performance that applies to all Hein-Werner hand jacks for passenger car, truck or bus service.



5
TON MODEL
\$9⁹⁰
NET TO
DEALER

Model E5.9A (shown above) is an exceptional value...Low 9"...Lift 6½"...Extension 3"...High 18½"...Weight 24 lbs....Dealer Price \$9.90 (West Coast \$10.60).



FEW MODELS ENGINEERED TO DO THE WORK OF MANY
HEIN-WERNER
hydraulic JACKS

A Complete Line

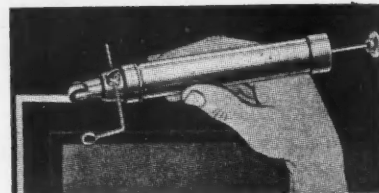
Other models in this line include the "Bullet" Model, 1½ ton capacity at \$2.99 (West Coast \$3.30)... Light Truck Special, 2 ton model \$4.25 (West Coast \$4.70)... For light trucks, 3 ton models at \$7.65 (West Coast \$8.20)... 7 ton models at \$13.15 (West Coast \$14.25)... For heavy trucks, buses and shop use—12 ton models \$19.15 (West Coast \$20.25)... 20 ton models \$33.00 (West Coast \$34.50)—and for modern passenger cars, our new BUMPER-LIFT Model at a new low price of \$4.95 (West Coast \$5.65)... Above prices net to dealer.

HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

(CONTINUED FROM PAGE 164)

Paint Striper

A PAINT striper using a forced feed has been announced by Wendell Mfg. Co., 2535 N. Ashland Ave., Chicago, Ill. It is ideal for every kind of striping job since it can be used in any position. As the paint is used, the plunger inside the



tube is moved forward bringing the paint to the wheel. Supplied with seven stripe widths sizes from 1/32 in. to 3/16 in. All striper head parts are chromium plated and polished. Complete outfit packed in strong wooden compartment case, priced at \$8.50.

A C Spark Plug

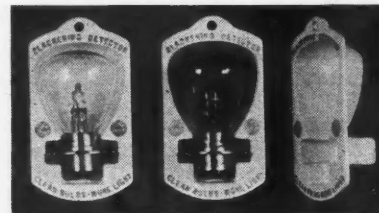


A NEW line of AC spark plugs, known as the "Blue Top" was announced recently by the AC Spark Plug Division of General Motors. Features of the new plug are better service, better performance, better fuel economy and longer plug life. The new line contains only 27 types, as against the 82 types of the previous line. With the "Blue Top" line retailing at \$.65

each, AC also announced an improved and expanded line of Titan spark plugs to list at \$.40 each. This plug was designed for car owners who want better plugs at a price.

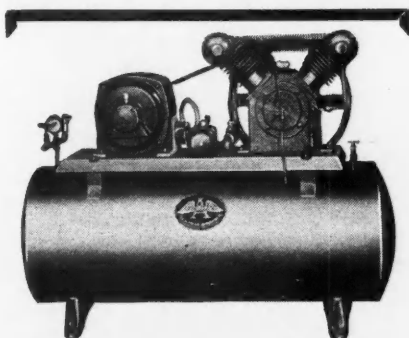
Headlight Tester

A NOVEL implement developed by the Incandescent Lamp Department of General Electric Co., Nela Park, Cleveland, Ohio, detects bulbs that are approaching the burnt-out stage. It is a small receptacle of moulded plastic material into which the



bulb is fitted and slowly rotated. The white background of the receptacle shows up in bold contrast any blackened portions of the bulb. Available to dealers of General Electric MAZDA Auto Lamps, the Blackening Detector augments the recently introduced Lighting Service Kit.

COMMERCIAL CAR JOURNAL
APRIL, 1937



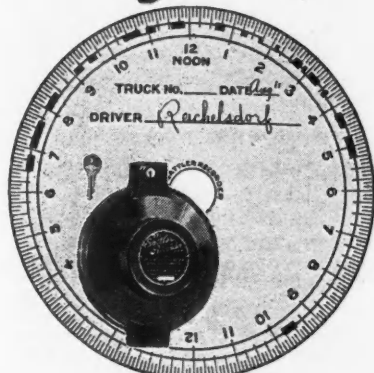
DAYTONS DO THEIR DUTY— That's Why Dayton's Sell!

You buy a truck not only on its rated horse power, load capacity and economy—you buy it for the good name back of it. Buy Air Compressors that way, too! DAYTON gives you peak capacities, minimum operating expense, years of endurance, rugged reliability—plus Dayton's 50-year record of "Air Compressors Exclusively." . . . A complete line for garage and station—1 to 60 ft. capacities—Single Stage, Two-Stage, V-Type—horizontal or vertical. Every worth-while improvement plus patented DAYTON features.

Write for bulletin,
stating your needs.

The Dayton Air Compressor Co., Dayton, Ohio

The Sattler Recorder



A perfect record of each truck's stops!

Enables you to check up on each truck after every day's run. Tells if rerouting is necessary, etc. Inexpensive. Entirely self-contained. No connections of any kind.

HANS SATTLER
Sheboygan, Wisconsin

RED INSUL

- Insulates
- Waterproofs
- Preserves the Ignition System



No. 323,507
Be Wise—Insul-ize

Stop current leakage.
End hard starting
and motor stalling
in wet weather by
INSUL-IZING.

Let us send you full
details and booklet
**IMPORTANT FACTS
ABOUT YOUR
IGNITION SYSTEM**

INSUL PRODUCTS CO.
521 Fifth Ave.
New York, N. Y.

COMMERCIAL CAR JOURNAL
APRIL, 1937

NEWS

Bond to Cover Mileage Tax in Kentucky

All truck operators in Kentucky operating under a permit issued by the Department of Motor Transportation have been warned by the department of their liability for mileage tax, and of the necessity of filing a bond to secure payment of the tax.

Failure will result in cancellation of permit.

Beardsley is Willys Sales Mgr.

Nelson A. Beardsley has been appointed general sales manager of Willys-Overland Motors, Inc. Mr. Beardsley comes to Willys-Overland from the Commercial Credit Co., Baltimore, where he has been for the past three and one-half years vice-president, specializing in field force organization. Previous to this he was for 17 years with the Willys-Overland company.

Butterfield is Bendix Adv. Mgr.

Clayton W. Butterfield has been appointed advertising manager of the Bendix Products Corp. Mr. Butterfield, who was formerly in charge of the sales program of the brake and lining division of the Bendix organization, will continue this work in addition to his duties as advertising manager.

More Stock Goes to Market by Truck

The trend toward motor trucks for live-stock hauling is again spotlighted in a recent annual government statistical summary issued by the Bureau of Agricultural Economics of the United States Department of Agriculture entitled "Driven-In Receipts of Livestock." Appearing in this annual compilation is one table containing figures on "Receipts and Number and Per Cent of Drive-Ins" at 17 markets combined, 1916 to 1936, inclusive.

This table shows that for 1916 total drive-ins by motor truck were 984,559 out of total receipts of 61,100,023, while in 1936 total drive-ins by truck had increased to 27,104,590 out of total receipts of 49,418,327.

White Sales Gain in 1936

The White Motor Co. in 1936 had the best year profit-wise that it has had since 1929. Unit sales surpassed any record since 1926. For its year which ended on December 31, 1936, White had a net profit of \$681,628.

(TURN TO NEXT PAGE, PLEASE)

HANDY

World's Largest Manufacturer of

**GOVERNORS
AIR CLEANERS
OIL FILTERS
OIL CONDITIONERS**

HANDY GOVERNOR CORPN.
DETROIT

IT'S SPRING TIME AND THAT MEANS

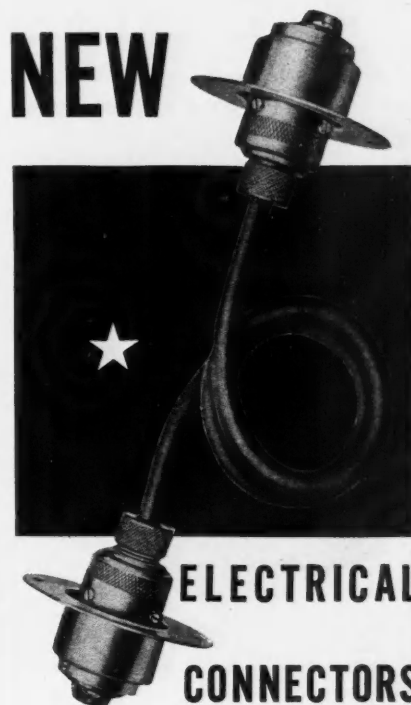


Your trucks will carry more payload more safely if you replace sagged, dangerous springs with genuine Maremont Alloy Steel Springs; and equip with Maremont Helper Springs.

Ask your jobber or write

MAREMONT AUTOMOTIVE PRODUCTS, INC.
50 ASHLAND AVE. AT 17TH ST. CHICAGO, U.S.A.

NEW



ELECTRICAL CONNECTORS for Use Between Tractors and Trailers

Built for severe service, these heavy duty plugs and receptacles reduce hazard and road delays, eliminate the constant maintenance required by ordinary connectors not suited to trucking service.

Pyle-National plugs and receptacles are offered in 2, 3, 4, and 6 pole types, rated 20 amperes, for connecting lighting, signals, and electric brake circuits. Substantial weatherproof construction, a positive locking connection, and self-aligning contacts insure positive contact under vibration, road shocks, and other severe operating conditions.

Send for special bulletin 189-A describing sizes and types, with full installation data.

The Pyle-National Company
1334 North Kestner Avenue, Chicago, Illinois.
Send me Bulletin No. 189-A on tractor-trailer
plugs and receptacles.

Name
Company
Address



MAGNUSOL CLEANS DIRTY MOTORS!

Fleet operators everywhere are using MAGNUSOL to clean dirty motor blocks and chassis—wash truck and bus bodies—remove stains from floors. Its use cuts costs—both time and labor. Jobs can be turned out faster and really clean.

MAGNUSOL makes all oil, dirt and grease quickly soluble with water. Simply brush or spray it on!—Flush it off!

Write for a copy of the MAGNUSOL folder which gives the complete story.

MAGNUS CHEMICAL COMPANY

38 South Avenue, Garwood, N. J.



This is a



SPONGEX SEAT CUSHION

- Cheaper than springs, comfortable, long wearing. The special grid construction prevents "packing" even under the severest shocks. There is no metal in Spongex Cushions, therefore, no chance of injury.

Write today for prices and full information.

Address Dept. C

SPONGE RUBBER PRODUCTS CO.
DERBY CONN.

NEWS

(CONTINUED FROM PAGE 134)

Insurance Changes for Long Haulers

A number of changes governing automobile liability insurance which are effective in all states except Washington, Oklahoma, Virginia, Massachusetts and Texas, became effective March 22. Of particular interest to long haul truck operators are the following changes:

The establishment of three groups for rate classification purposes: (1) for those operating over 50 but not over 150 miles; (2) for those operating over 150 but not over 300 miles; (3) for those operating over 300 miles.

The establishment of a complete new schedule of basic rates and rate zones. There are now nine rate zones instead of numerous territorial rates as formerly.

The creation of a new alternative method of computing insurance rates for long haul trucking risks known as the "gross receipts or earnings basis."

The establishment of two schedules of rates for trailers and semi-trailers used in long haul operations. A lower rate applies where the overall length of a tractor and semi-trailer, or a truck and trailer is under 45 ft. A higher rate applies where the overall length is more than 45 ft.

Doling to New York for Autocar

Charles E. Doling, vice-president of the Autocar Sales & Service Co., Inc., Ardmore, Pa., has been appointed sales manager of the New York district.

J. B. Rosenquest has been made district manager of Northern New Jersey with headquarters at Newark.

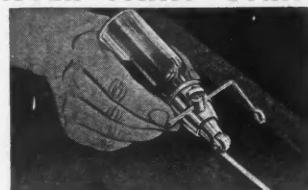
Texas 7000 Lb. Still Stands

The bill introduced in Texas legislature to modify the 7000 lb. weight limit for trucks was defeated by a vote of 72 to 51. The vote, however, was the largest in favor of the modification proposal ever yet recorded in the years the present law has been fought.

Bendix Convention in May

The annual sales convention of The Bendix Products Corp. will be held in South Bend, Ind., May 25-28. More than 600 Bendix distributors will attend the convention, and will come from all parts of the U. S. and Canada. A full four-day program has been arranged.

MASTER PAINT STRIPERS



EASY TO USE

Lays a perfect paint stripe on Autos, Trucks, Trailers, etc.

"Eye Appeal Means Buy Appeal"

Sets \$1.50 to \$8.50.

Ask your jobber or write us for literature.

WENDELL MFG. CO.

2533 N. ASHLAND AVE. CHICAGO, ILL.

DOUBLE
SAFETY

POSITIVE
TRACTION

DOUBLE
MILEAGE

McKay Multi-Grip Double-Bar-Reinforced Truck Chains

THE MCKAY COMPANY
MCKAY BLDG. PITTSBURGH, PA.

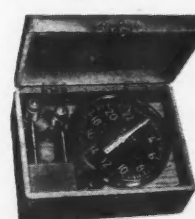
NEW ALCO 4-WHEEL DRIVE

For Ford and Chevrolet trucks offers revolutionary performance features never before found—a light, fast all-wheel-drive that piles up profits for the hauler on hard runs.

For Information Write or Wire

ALMA MOTOR COMPANY
884 Penobscot Bldg.
DETROIT, MICH.

JONES PORTABLE TACHOMETER



The world's largest operators of commercial vehicles use Jones Portable Tachometers to check engine speeds, for tune-ups, and setting governors, etc. Here are a few: Standard Oil Co., of La., N. J., N. Y.; Shell Petroleum Co.; Atlantic Refining Company, Tidewater Oil Company, Keeshin Motor Express, Mack Trucks, Brockway, U. S. Navy.

Direct, instantaneous reading.

JONES - MOTROLA - NEW YORK
450 WHITLOCK AVENUE

PANELS FOR TRUCK BODIES... BUSES... TRAILERS

Made by
ALGOMA

TECHNICAL DIVISION

ALGOMA PLYWOOD & VENEER COMPANY

228 N. LaSalle St., Chicago, Illinois

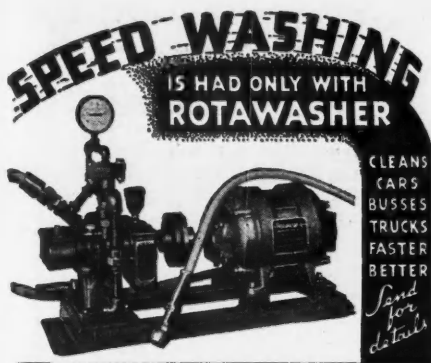
Factory—Algoma, Wisconsin

ALGOMETL wood combined to steel, superior to any other metal-faced plywood. For side panels.

DURAPLY finest resin-glued plywood that experience, quality materials and modern hot-plate presses can produce. For roofs.

ALGOMALOID structural plywood corresponding to Duraply specifications. For floors.

CARSTENITE Decorative wood-faced panels in rare wood grains. Can be bent to curved surfaces. Positive insulating values.



• FOR BIGGER PROFITS

better work and greater customer satisfaction, you must have Speed Washing!

• FOR LOWER COST

in keeping your own fleet clean and new—nothing compares with Speed Washing!

New Folder just off the press—
THE Write for it today!

ROTAWASHER
CORP.

Dent. CC, 118 E. St. Clair Ave.
CLEVELAND, OHIO

ARMORPLY

• A metal faced plywood panel of high quality for building better panel bodies.

Armorply is the lightest panel of its type available. It is faced with rust resisting galvanized steel, and has a hard birch back.

Write for samples, prices and full information.

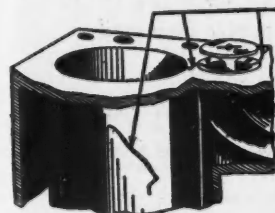


U.S. PLYWOOD

UNITED STATES PLYWOOD CO.

103 Park Avenue New York, N. Y.

YOU NEED WONDER WELD



Wonder Weld will keep your trucks on the road by sealing permanently inside cylinder and valve port cracks in 30 minutes, making unnecessary the usual 30-hour engine tear-down job. Ask your jobber.

MILLER MFG. CO.

1218 KAIGHN AVE., CAMDEN, N. J.

COMMERCIAL CAR JOURNAL
APRIL, 1937

Black & Decker Appoints Managers

The Black & Decker Mfg. Co. announces the appointment of John M. Schreiner as manager of their Detroit Branch succeeding the late George W. Stoiber. W. J. Fenwick, co-manager of the Cleveland territory, has been appointed manager of all activities in that branch. G. H. Treslar has been appointed supervisor of the Detroit and Cleveland territories.

Chevrolet Appoints Regional Men

Nine new assistant regional managers in the sales organization of the Chevrolet Division of General Motors Corp. have been appointed. They are: W. J. Graveson, Flint; G. R. Weeks, Atlantic Coast; F. W. Williams, Eastern; P. R. Letts, New England; W. J. Kane, Southeastern; R. W. Hill, Great Lakes; H. C. Howard, Southwestern; T. F. Brown, Middle Western; and F. N. Phelps, Pacific Coast. All were formerly zone managers of the largest and most important points in the new car marketing organization, and all have had long service with Chevrolet.

Lathan Power Brake Manual

The new Lathan Power Brake Manual, enlarged up to date edition, features complete installation instructions; large assortment of installation drawings covering package outfits, conventional systems, and special installations; important mechanical data showing methods of making connections, alignments, adjustments; formulae for figuring line pressure of hydraulic brakes; recommendations in connection with vacuum reserve tanks, power chambers, levers, etc. Single copies \$1 each, 75 cents per copy for 5 or more copies. Lathan Co., Inc., South San Francisco, Cal., or 477 Selden Ave., Detroit.

L. R. Baldock

L. R. Baldock, assistant treasurer of The Timken-Detroit Axle Co., Detroit, passed away March 3 after a brief illness.

Kline With Continental

Harry D. Kline has been appointed as advertising manager of the Continental Motors Corp. and will work with B. F. Tobin, vice-president in charge of sales. O. R. Baird is sales manager of the Automotive division.

(TURN TO NEXT PAGE, PLEASE)

57-S SIPHON GUN

\$5.00

with

one quart heavy aluminum cup.

Round spray with needle and air valve control for the high pressure air lines. Sprays lacquer or oils, etc.

Andrews Spray Equipment Company
West 9th and Superior Ave., Cleveland, O.



PEEL

QUICK, PROFITABLE BEARING ADJUSTMENTS

Simply peel the precision laminations ... one or more at a time. Accurate adjustments right at the job! No filing. A smooth-as-glass surface—always. Standard for all makes of engines. (Also with patented soft babbitt tips for pressure-lubricated systems.) **PEEL 'EM FOR PROFIT.**

LAMINUM
Precision adjustment SHIMS

LAMINATED SHIM COMPANY, INC.
MFRS. ... LONG ISLAND CITY, N.Y.
Replacement Sales by
FEDERAL-MOGUL CORP.
DETROIT 757

Super Compression Chief Oil Chief

Super Scraper Drilled Oil

Our new Super Scraper Set for your next re-conditioned motor will show you a new oil economy. They are shaped to ride over the film of oil. Your Jobber will serve you.

THE INTERNATIONAL PISTON RING CO.
CLEVELAND, OHIO

COLUMBIAN
unbreakable
malleable iron machinists' vises—accurate and efficient

STEEL BALL
THREADED FROM
MACHINE STOCK
(1/2")

REPLACEMENT STEEL
AND TAPER

UNBREAKABLE
MALLEABLE
IRON CASTINGS

THE COLUMBIAN
VISES
CLEVELAND

BEARING
POSSIBLE
(LOCATING
SQUARE PLATE)

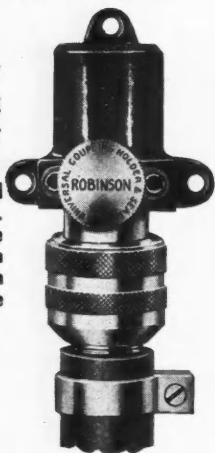
HARDENED
STEEL BEARING
WASHER

THE ROBINSON UNIVERSAL COUPLING HOLDER

- HOLDS SECURELY
- SUPPORTS HOSE
- SEALS FROM DIRT

- Fits all standard type couplings. Protects male coupling from damage which destroys brake efficiency.

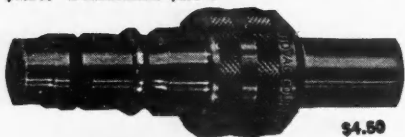
\$1.25 LIST PRICE



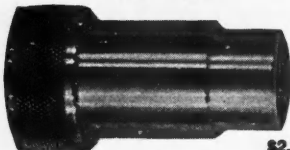
THE ROBINSON

AUTOVAC COUPLER

Connected . . . Autovac is fully open! Disconnected . . . Autovac is tightly closed! No valve to turn off . . . nothing left to chance. Saves time and money. Autovac protects hose lines and mechanism from water and dirt . . . It's automatically sealed when not in use. Furnished in 3 sizes $\frac{1}{2}$, $\frac{3}{4}$, $\frac{1}{2}$ inch. MALE \$4.50. FEMALE \$2.80.



\$4.50



\$2.80

**RELIABLE MACHINE SCREW
SALES CO., INC.**
NEWARK, NEW JERSEY

BAKER SNOW PLOWS

We want you to have our 32-page catalog of Baker Snow Plows for Motor Trucks. The 21 models of this 29-year-old line are used at America's leading industrial plants, by the largest cities and most of the State Highway Departments.

THE BAKER MFG. CO.
571 Stanford Ave., Springfield, Ill.



Beall Is ATA General Counsel

J. N. Beall has been appointed general counsel of the American Trucking Associations, Inc., succeeding E. S. Brashears, resigned.

Handbook of Interstate Motor Carrier Law

The Handbook of Interstate Motor Carrier Law, by David Brodsky and J. Almyk Lieberman, is written in easily understandable language. It is divided into 2 parts. Part I is a comprehensive discussion of the practical application of the federal Motor Carrier Act, 1935, and Part II deals with the requirements of the 48 states of interstate for-hire and private motor carriers.

In Part I the authors have taken up the subject of motor carriers who are regulated and those exempt, and common carrier certificates. Tariffs and Shipping Papers are discussed in detail with special consideration given to tariff construction, analyses of the different kinds of rates as well as freight bills, bills of lading and the limitation of liability by carriers in shipping papers. There is a chapter on all the aspects of insurance, the safety regulations and accounts, records and reports. The subject of extending a carrier's service, consolidations, mergers, purchases, leases and operating contracts is taken up in detail. There is a chapter on Contract Carriers, one on New Motor Carrier Operations and another on Brokers and Private Carriers. Procedure before the I.C.C. on such subjects as complaints, Joint Board hearings, etc., is outlined and there is a final chapter on Fines, Penalties and Enforcement under the Act.

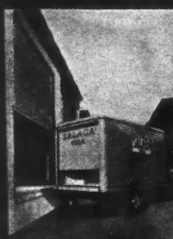
In Part II is a digest of the laws of the 48 states and the District of Columbia as they affect interstate common and contract carriers. Each state's requirements are set forth regarding P.U.C. certificates or penalties, insurance, fees, reciprocity agreements and taxes. For both private and for-hire carriers are given the registration license fees, requirement and load requirements, traffic and safety regulations and miscellaneous requirements. Milbin Publishing Co., New York, N. Y. Price \$3.50.

Ethyl Builds Plant

A new Ethyl fluid plant under construction at North Baton Rouge, La., is to be the first step in the decentralization of plants manufacturing ingredients for leaded gasoline, it is announced by the Ethyl Gasoline Corp., New York City.

KINNEAR TRUCK DOORS

Also Doors for Buildings



ALL METAL . . .
... Coils like a window-shade, out of the way
**CONVENIENT
BURGLAR PROOF
FIRE PROOF
MORE DURABLE**

Write for Details

KINNEAR
Manufacturing Company
2100-20 FIELDS AVE.
COLUMBUS, OHIO

Specify MILEY Brake Lining

Nine types that not only assure the correct friction but the correct structure and best braking material for each brake.



BLACK GOLD

MILEY BLACK GOLD is the only metal base lining. Dense as cast iron, it is the best for Bendix, Lockheed, Steeldraulic, and Huck brakes—for all "depression year" mechanisms and others that compensate for lack of drum area with extreme operating pressure.

MILEY EBONITE Heavy Duty, a new zinc wire, synthetic resin, semi-moulded, that comes in rolls, sets, and on Miley Ready Lined Brake Shoes. Strictly heavy duty lining—that gives 2 wheel brakes 4 wheel power and steps up 4 wheel brakes to power-brake performance. The best lining for Fords, Heavy Trucks and External Brakes.



Write for
Samples and
Data Book

L. J. MILEY CO., Inc.
1470 S. Michigan Ave.
CHICAGO, U. S. A.

IT PAYS TO BUY

EDWARDS QUALITY SEMI-TRAILERS

EDWARDS IRON WORKS, INC.
SOUTH BEND, INDIANA

Edison Spark Plugs The Choice of National Fleets

EDISON-SPLITDORF CORPORATION
West Orange New Jersey

BRAKES?

1. Doubled Load Capacity
 2. Tripled Lining Life
 3. Permanently Equalized
- with

LINDERMANS

A drum full of lining and the same pressure under every square inch.

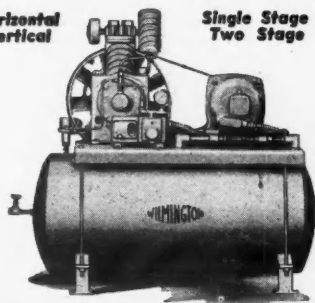
Send for catalog 101-2c.

LINDERMAN DEVICES, Inc.
149 Broadway, New York, N. Y.

WILMINGTON COMPRESSORS

Horizontal
Vertical

Single Stage
Two Stage



"FREE" Air? Practically!

Low maintenance costs—so low your air is practically free except for power charges—is the reason you should own a Wilmington. The non-pulsating check valve lasts years longer than pressure operated types. The motor can't burn out from starting overloads. Air is cleaned to reduce wear, de-oiled to protect tires and hose. Timken bearings. Highest quality throughout, but priced in line. Send for catalog.

The Auto Compressor Co.
S. Mulberry St., Wilmington, Ohio

THE GENERAL FILTER



WILL SOLVE YOUR FILTER PROBLEM IT has a great capacity for dirt. Keeps the oil in your engine free from abrasives thereby decreasing maintenance cost. The cost of the cartridge is sufficiently low that it can be replaced every time the oil is changed. Simplicity in design permits the cartridge to be changed very quickly as there are no bolts or nuts to be removed.

Dealers in your
locality

Write us for details

GENERAL FILTERS, INC.

9001 Alpine Ave.

Detroit, Mich.

OSHKOSH 4 Wheel Drive Trucks

A proven product. 1½ to 10 ton capacity. Write for complete information.

OSHKOSH
Motor Trucks, Inc.
Oshkosh, Wis.

Dietz Enlarges Plant

The Motor Accessories division of the R. E. Dietz Co. has been expanded with important enlargements of manufacturing facilities at its Syracuse plant to handle increased sales. Many new numbers have been developed in the line. Conspicuous among these numbers are the Dietz fog lite, made in two styles, the Dietz direction signals, made in two general styles, with various combinations of lights, and Dietz highway flares, a recently styled new line of which will soon reach the market.

Newark Truck Show Nov. 6

The Fourth Annual National Motor Truck Show, will be held in Newark, N. J., November 6 to November 12, 1937, at the Newark Centre Market. Plans are being made to interest the Government in putting on a display of modernized motor equipment as used in the field services of the armies, secure cooperation of the Aviation Companies manufacturing and operating airplane equipment, and present talks, discussions and meetings during the week by prominent engineers.

Mack Appoints Josephs, Jr., Chief Engineer

Mack Trucks, Inc., announces the appointment of L. C. Josephs, Jr., as chief engineer. Mr. Josephs will make his headquarters at the company's Allentown, Pa., plant. Mack also announces the appointment of C. T. Ruhf as production manager; C. J. Moran as assistant general superintendent; and C. F. Drumm as general service engineer.

Autocar Sales Net Profit for 1936

Sales of the Autocar Company for 1936 were \$11,687,930 as compared with \$7,965,822 for the previous year, an increase of 47 per cent, according to the report of President R. P. Page, Jr., to the annual stockholders' meeting in Ardmore, Pa., March 12. Net profit was \$163,695.

Studebaker Announces New Milwaukee Dealer

A new metropolitan dealer in Milwaukee has just been appointed for The Studebaker Corp. Howard A. Shea and Victor Joyce, who have formed the new dealership which is known as the Shea-Joyce Co., have both been identified with The Studebaker Corp. for nearly ten years.

(TURN TO PAGE 187, PLEASE)

CASH IN ON THE "KING" System of MOTOR TUNE-UP

You can greatly increase the efficiency of your repair shop with the "KING System" of Motor Tune-up. It will locate Motor and Ignition troubles QUICKLY and ACCURATELY—and find trouble that couldn't possibly be found in any other way, resulting in your trucks and passenger cars operating at maximum efficiency. The "KING System" has many outstanding EXCLUSIVE features including the "KING" Meter which shows DIRECT READINGS on the Meter in black and white like your watch tells the time. THIS ELIMINATES ALL GUESS WORK. Made in wide price range. Write for 1937 Catalog covering Motor and Ignition Testers, Battery Chargers and Testers, Exhaust Gas Analyzers, etc.



"KING" MT-190
\$175.00

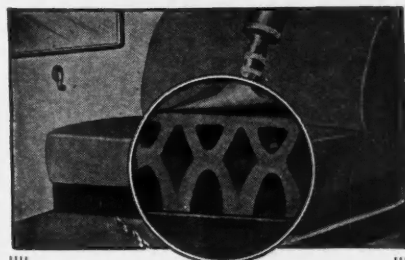
"KING" GAS ANALYZER

Every Fleet Owner can increase his MILES PER GALLON with the "KING" Exhaust Gas Analyzer. It will indicate if gas is being wasted and will also show when waste has been stopped. Thousands of dollars worth of gas can be saved each year with the "KING" Exhaust Gas Analyzer. It will soon pay for itself in fuel saved. Obtain further particulars. Ask Your Jobber or Write Us Jobber's Name.



The ELECTRIC HEAT CONTROL CO.
9123 INMAN AVE. CLEVELAND, OHIO
"KING" Good Products Since 1914 "KING"

SEAT CUSHIONS



When you buy seat cushions for your trucks you want to know what they are... and how long they'll last. Black-Diamond all-rubber seat cushions and back rests are constantly winning new users by actual proof of their superiority. Scientifically engineered with the famous diamond grid construction, these cushions have a life time resilience that means added comfort, greater durability and no upkeep expense. You will be surprised at the low cost of these sturdy, wear proof cushions. Get the facts today.

KARPEX MANUFACTURING CO.

1424 E. 19th St., Indianapolis, Ind.

THUMB SCREW
ADJUSTMENT
BALANCED
(2-SIDE) PULL
OVER
LAPPING
SEAL

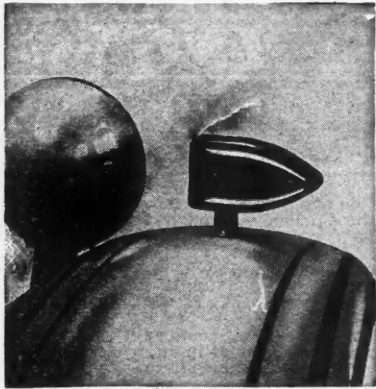


TRADE MARK
NOC-OUT
HOSE
CLAMPS
THE HOSE CLAMP WITH
THE THUMB SCREW

Standard equipment of the automotive industry. Adjustable - one size equals many. Quick tightening, perfect seal. At all Jobbers.

Pat. No. 1,382,813.

WITTEK MFG. CO.
4305 W. 24th Pl., Chicago, U. S. A.



Back view, front signal lamp, informing cars alongside of a contemplated turn

TURN SIGNALS

Remove the Most Serious Objections to Larger Vehicles

SIMPLE IN OPERATION . .
EASY TO INSTALL
NO MAINTENANCE PROBLEM

DO last longer
DO resist rust
DO cost less in the end

There is a Reason Why

TURN SIGNAL

*Will Stand Up and
TAKE IT!*

TURN SIGNAL'S

ELECTRIC FLARE

Size 3 x 5 inch is

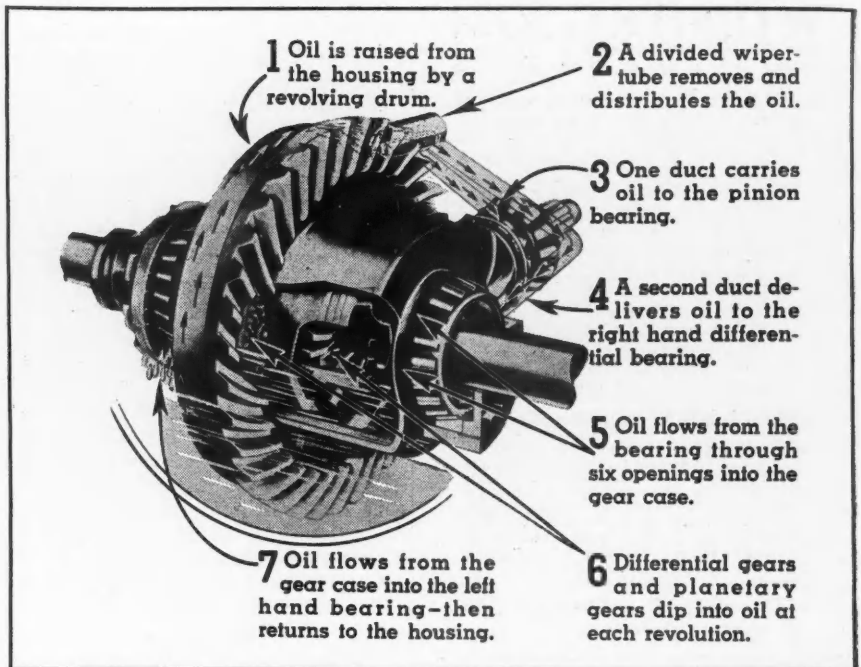
NO NON-USE DETERIORATION
100% SURE DEPENDABILITY

Watch for this trademark

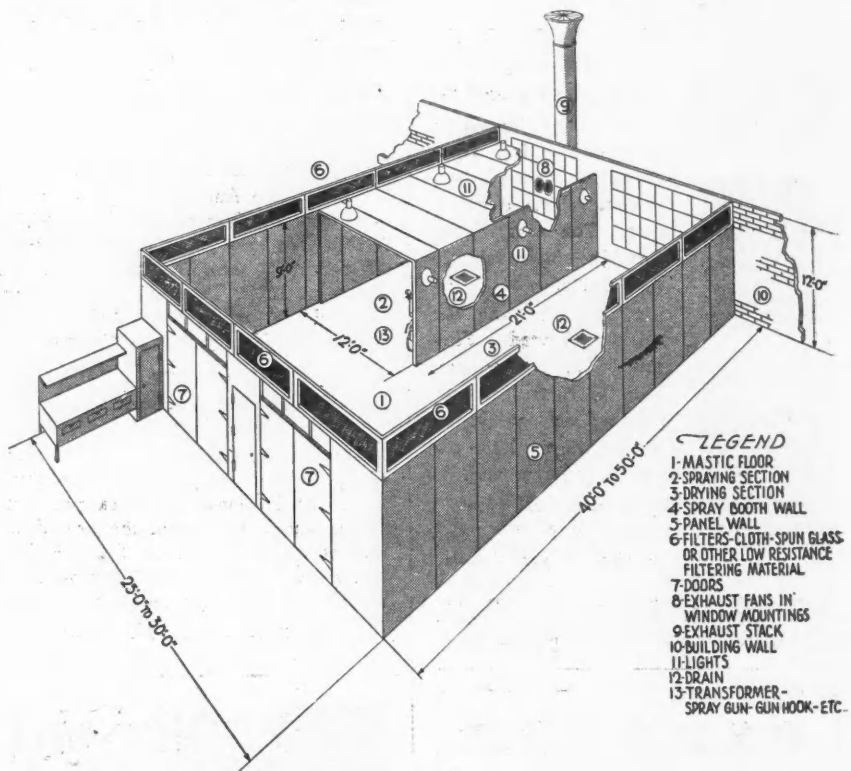
TURN SIGNAL
CORPORATION

400 E. Rittenhouse St.
(Germantown) Phila., Pa.

Eaton Forced Flow Lubrication System for Rear Axles



This is Eaton Mfg. Co.'s forced flow lubrication system for rear axles about which you received advance notice in the February "Ears to the Ground." Read the explanations in numerical sequence to understand the action.



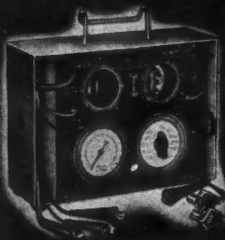
Paint Booth Layout for Fleet Shops

The paint booth illustrated here is a model layout suggested by the DeVilbiss Co., for fleet shops desiring the maximum in efficiency in a paint booth-requiring the minimum of space. This suggested layout requires a space 40 x 50 ft. and includes a spray room and drying space completely enclosed.

Motor vehicles may be moved from one space to the other within the enclosure. Provision is made for proper lighting, ventilating, draining, exhaust fans, air filters, spray gun hook-up, etc. This particular plan may be adapted so that it may be set up either in the corner of a building or along any part of a wall.

Sir:

IT'S TUNE-UP TIME . . .



T-200

A precision instrument to test coils and condensers, on or off the car. Airplane dial, geissler glow tube, record coil and condenser response to the finest degree.

Self-starting six volt motor pre-heats coil to render exact test, same as unit while in operation on car.

T-400

Invaluable for checking capacity and leakage of condensers. Gives an accurate 450 volt breakdown test, but will not strain windings of condenser. Meter needle points to exact figure in test—no flash tube or other varying factor used.



T-500



Another precision instrument for timing ignition and for checking automatic spark advances. New features—One piece shock-proof case, Neon recorder, simple to operate.

Write for Particulars

C. E. NIEHOFF & CO.

230 W. Superior St. Chicago, Ill.

(CONTINUED FROM PAGE 185)

Chevrolet Test Run

Here is a list of the records established recently by a Chevrolet half-ton commercial pickup truck loaded with a certified 1000-pound pay load on a 10,000-mile test run around the rim of the United States under



official sanction No. 3450 of the American Automobile Association Contest Board and certified by the A.A.A.: mileage, 10,244.8; gasoline used, 493.8 gallons; oil consumed, 7.5 quarts; gasoline cost, \$101; gasoline mileage, 20.74 miles per gallon; average speed, 31.18 miles per hour; running time, 328 hours, 31 minutes; cost per vehicle mile, \$.0098; average oil mileage, 1365.9 miles per quart; total cost of parts replacements, \$.73.

One quart of water added at the conclusion of the test run brought the radiator up to full.

IHC Opens New Branch

A new motor truck branch of the International Harvester Co., has been opened at 215 University Ave., St. Paul, Minn. Edmund Burke has been appointed branch manager with F. R. Corcoran as his assistant and Howard F. Rink as local manager.

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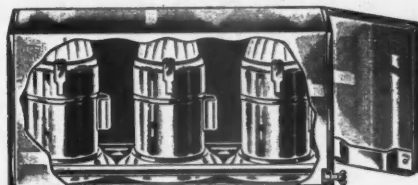
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